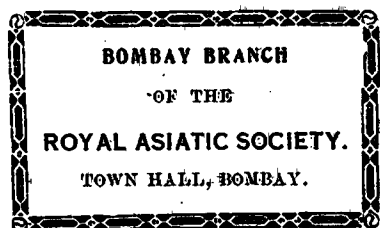


JUGONNATH SUNKERSETT
PRESENTATION.



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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH:

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE

ACADEMIES OF STOCKHOLM, UPSAL, TURIN,

LISBON, LUND, PHILADELPHIA, AND THE

NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

—“VIRESCERE ACQUIRIT EUNDO.”—VIRG.

VOL. VI.

LONDON:

PRINTED FOR THE EDITOR BY J. DAVIS,

And sold at No. 2, Mead Place, near the Asylum; by Messrs. WHITE,

Booksellers, Fleet-street; JOHNSON, St. Paul's Church-yard;

DILLY, in the Poultry; and by all Booksellers, &c.

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Bartsia alpina.

non. 1796. Del. et Sculp. J. Sm. ex J. L. Smith.

BARTSIA alpina.

*Alpine Bartsia.**DIDYNAMIA Angiospermia.*

GEN. CHAR. *Calyx* in 4 lobes, coloured. *Cor.* ringent, with a contracted orifice: upper lip notched, concave, longest; lower in 3 nearly equal lobes. *Caps.* ovate, compressed, with 2 cells, and many angular seeds.

SPEC. CHAR. Leaves opposite, heart-shaped, bluntly serrated.

SYN. *Bartsia alpina.* *Linn. Sp. Pl.* 839. *Huds. Fl. An.* 267. *With. Bot. Arr.* 633. *Dicks. H. Sicc. fasc.* 10. 14.

Euphrasia rubra Westmorlandica, foliis brevibus obtusis. *Raii Syn.* * 235.

Clinopodium alpinum. *Ger. em.* 676.

THE wild recent specimens of this very rare plant, from which our drawing was taken, were gathered July 27, 1796, near Middleton in Teesdale, Durham, by the Rev. Mr. Harriman, and Mr. Oliver surgeon, of Middleton, and sent us by our liberal correspondent Mr. E. Robson. Ray and Hudson found this *Bartsia* near Orton in Westmorland, and Mr. Dickson first observed it in Scotland. It prefers a moist stony soil, on the borders of alpine rills, or little boggy spots in the interstices of rocky precipices, flowering after the middle of summer, and soon ripening its seed.

The root is perennial and creeping. Stems from 4 to 8 inches high, erect, simple, square, clothed from top to bottom with several pair of opposite sessile leaves, which are ovate or heart-shaped, acute, strongly serrated and veined, smooth above, hairy beneath; the lowermost are very small; the uppermost coloured with purple, and out of the bosoms of these the flowers arise solitary, on very short flower-stalks, forming a terminal leafy spike. The calyx is viscid and hairy, in 4 nearly equal segments, tipped with purple. Corolla of a violet purple, thrice as long as the calyx, compressed, clothed with glandular viscid hairs; the lower lip reflexed. Antheræ prominent, very hairy. Style projecting beyond the stamina, with a blunt stigma. Capsule ovate, downy, of two valves, with a transverse partition arising from each. Seeds numerous, angular, with membranous striated angles, more akin to those of *Rhinanthus* than to those of *Melampyrum*, with which last genus the flower of *Bartsia* has great affinity.

The whole herb turns very black in drying, especially when gathered young.



Myrica rubra (L.) Sieber & Zucc.

EUONYMUS europæus.

Spindle-tree.

PENTANDRIA Monogynia.

GEN. CHAR. *Petals* 5. *Capsule* with 5 angles, 5 cells, and 5 valves, coloured. *Seeds* in a pulpy covering.

SPEC. CHAR. *Petals* mostly 4, acute. *Leaves* on short footstalks. *Branches* smooth.

SYN. *Euonymus europæus*. *Linn. Sp. Pl.* 286. *Huds. Fl. An.* 98. *With. Bot. Arr.* 241. *Relh. Cant.* 96. *Sibth. Ox.* 82.

E. vulgaris. *Raii Syn.* 468.

HEDGES and thickets in most parts of England produce this shrub not unfrequently, though it rarely occurs in mountainous countries. The flowers appear early in May; the fruit does not ripen till the autumn, when it continues to ornament the hedges, even after the leaves are fallen, and is frequently joined with holly and miseltoe to adorn houses and churches at Christmass.

This is a small shrub, with straight spreading branches, which are angular when young, having four slightly prominent lines running down them; but these are not always visible; their bark is green and smooth. Leaves nearly opposite, on short footstalks, lanceolate, pointed, serrated, the first pair only being entire. Stipulæ none. Flowers in small, axillary, forked, divaricated panicles, whitish and foetid; the first of them that opens having five stamina, and as many petals, calyx-teeth, and capsules; but all the rest have those parts in fours only. The style is short, simple, and acute. Capsules pink-coloured when ripe, bursting at their outer edges, and each cell containing one whitish seed, enveloped in an orange-coloured pulpy coat. This fruit is reported, even from the days of Theophrastus, to be violently emetic, purgative, and dangerous. That author asserts the leaves to be poisonous to cattle, especially goats, unless they be copiously purged. Dr. Withering says: Cows, goats, and sheep eat this plant. The wood, cut in summer-time, is tough, and used for skewers. Linnæus observes that it makes the best charcoal to draw with.



*Enanthe
fistulosa.*

OENANTHE fistulosa.

*Common Water-dropwort.**PENTANDRIA Digynia.*

GEN. CHAR. *Florets* irregular: those of the disk sessile and barren. *Fruit* crowned with the calyx.

SPEC. CHAR. Root sending forth runners. Stem-leaves pinnated, cylindrical, tubular. General involucre, for the most part, wanting.

SYN. *Oenanthe fistulosa*. *Linn. Sp. Pl.* 365. *Huds. Fl. An.* 121. *With. Bot. Arr.* 296. *Relh. Cant.* 117. *Sibth. Ox.* 98.

O. aquatica. *Raii Syn.* 210.

EXCEEDINGLY common in wet ditches, ponds and rivers, flowering in July. The root is fibrous and perennial, sending forth under water several creeping runners, by which it is increased, and throwing up tall branching stems to a considerable height above the surface. These stems are tubular, contracted at the joints, striated, of a glaucous hue. Radical leaves bipinnate; the leaflets flat, wedge-shaped and lobed: stem-leaves alternate, pinnate; their leaflets and common foot-stalks cylindrical and hollow. Umbels on long, strong, alternate stalks, lateral and terminal: general rays from 3 to 7 or 8, mostly naked, but sometimes furnished with one linear leaf of an involucre: partial umbels with many rays, and a partial involucre of several membranous leaves. Calyx-teeth sharp and always spreading. Petals very unequal, with incurved points. Stamina long. Styles after impregnation much elongated, and erect, giving the ripening umbels a bur-like appearance. Stigmas capitate.

The variety β of Hudson is a very trifling one. Dr. Stokes observes that in some situations this species acquires the habit of *O. pimpinelloides*, but may be readily known by the want of a general involucre. We presume this remark alludes to our *O. peucedanifolia*, see *t.* 348.



Portulaca oleraceae

HOTTONIA palustris.
Water Violet or Featherfoil.

PENTANDRIA Monogynia.

GEN. CHAR. *Corolla* salver-shaped. *Stamina* standing on the margin of the tube. *Capsule* with 1 cell.

SPEC. CHAR. Stalk bearing many flowers in whorls.

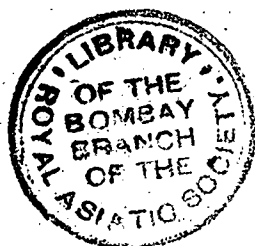
SYN. *Hottonia palustris*. *Linn. Sp. Pl.* 208. *Huds. Fl. An.* 85. *With. Bot. Arr.* 207. *Relh. Cant.* 83. *Sibth. Ox.* 73. *Curt. Lond. fasc.* 1. t. 11. *Dicks. H. Sicc. fasc.* 7. 7.

Hottonia. Raii Syn. 285.

CLEAR ditches and ponds on a gravelly soil, in various parts of England, are frequently adorned with the beautiful *Hottonia*, which may vie with many of the most admired exotics in elegance, having indeed, like some other European aquatics, very much the air of a tropical plant. Its English name, Water Violet, is far from apt, even though we understand it as contrasting this plant with the Dame's Violet, or *Hesperis*, to which its resemblance is slight, and its affinity none, for it belongs to the same natural order as the Primrose and Pimpernel.

The white fibrous radicles run deep into the ground, and from the crown of the perennial root spring several leaves in a star-like form, and a few long runners, which are leafy and take root at their extremities, flowering the next year. The leaves are smooth, bright-green, elegantly and deeply pinnatifid, or pectinated, their segments linear and entire, varying in breadth, acute. All these parts are constantly under water. The stalk alone rises above the surface to the height of 8 or 10 inches, being solitary, erect, round, naked, smooth below, roughish above, and bearing 5 or 6 whorls, each of 5 to 10 pedunculated flowers, with an oblong bractea at the base of each flower-stalk. The flowers are not unlike those of a *Primula*. They are naturally 5-cleft, but may be found with 6 or 7 segments, and as many stamina. Their colour is pale purple, with a yellow tube and orifice. Capsule globular, with many seeds standing on a large globose receptacle. Stigma concave. It flowers in June.

Boerhaave named this genus in honour of his predecessor in the Leyden Professorship, Peter Hotton, of whose character and abilities he speaks with great respect in his Index to the Leyden Garden.





POA compressa.
Creeping Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets.

Spikelet ovate; glumes ovate, pointed.

SPEC. CHAR. Panicle condensed; its branches leaning one way, erect before and after flowering. Stem ascending, compressed.

SYN. *Poa compressa.* Linn. *Sp. Pl.* 101. Huds. *Fl. An.* 41. With. *Bot. Arr.* 89. Relh. *Cant.* 36. Sibth. *Ox.* 42. Dicks. *H. Sicc. fasc.* 6. 1.

Gramen pratense paniculatum medium. Raii *Syn.* 409.

FREQUENT on the tops of walls that are a little covered with earth, and in other very dry places, where it may be found in flower from June to September, and may be easily distinguished by its compressed stem.

The roots are perennial, creeping, consisting of downy fibres, thrown out from the lowest part of the stem, which is decumbent. The straw rises obliquely, the first joints being geniculated, the uppermost very long and erect. Leaves narrow, with a long sheath, and short obtuse stipula, of a glaucous green. Panicle of the same hue, upright, the common stem contracting very suddenly where the first branches come off. All the branches are in the beginning close and erect, acutely angular and rough, a little zigzag: as they flower they spread considerably, but immediately after the discharge of the *pollen* they become again close-pressed to the main branch, so that the upper part of the panicle looks as if it expanded first. By this mark the grass may be known at a distance. The glumes have a silvery edge, and purplish tip; they vary from 3 to 8 or 9 in each calyx.

This grass can scarcely be put to any agricultural use, though all cattle eat it; it does not thrive in moist or manured ground, and there are many better for dry situations.

TRIGLOCHIN palustre.
Marsh Arrow-grass.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, like the calyx.
Style none. *Capsule* bursting at the base.

SPEC. CHAR. Capsules linear, of three cells.

SYN. Triglochin palustre. *Linn. Sp. Pl.* 482. *Huds. Fl. An.* 152. *With. Bot. Arr.* 378. *Relh. Cant.* 146. *Sibth. Ox.* 119.

Juncajo palustris & vulgaris. *Raii Syn.* 435.

Gramen aquaticum spicatum. *Ger. em.* 13.

THIS species of *Triglochin* is full as common in wet boggy meadows, as that we have figured *tab.* 255 is in salt marshes, flowering about the middle of summer.

The root is fibrous, tufted, and perennial. Leaves rushy, somewhat more slender and less fleshy than in the *maritimum*, but like them semicylindrical, with a membranous, vaginating, intrafoliaceous stipula. Stalk solitary, erect, longer than the leaves, bearing a long, thick-set, but slender, spike of numerous flowers, smaller than those of the species just mentioned. The most striking and certain distinction however between the two is that the fruit of *T. palustre* is much more long and slender, having only 3 cells and 3 valves instead of 6. These valves, separating from the base, look like a three-barbed arrow-head.

All cattle will eat the Marsh Arrow-grass, and Dr. Withering says cows are extremely fond of it; yet we know not that it has as yet obtained much attention from the experimental farmer.



*Thalictrum
flavum.*

Thalictrum flavum, L. Sp. Pl. 1034. Thalictrum flavum, L. Sp. Pl. 1034.

THALICTRUM flavum.

Common Meadow-rue.

POLYANDRIA Polygynia.

GEN. CHAR. *Cal.* none. *Petals* 4 or 5. *Seeds* naked and beardless.

SPEC. CHAR. Stem furrowed, leafy. Panicle much branched, erect.

SYN. *Thalictrum flavum.* Linn. *Sp. Pl.* 770. *Huds. Fl. An.* 239. *With. Bot. Arr.* 569. *Relh. Cant.* 210. *Sibth. Ox.* 171. *Lightf. Scot.* 285.

T. nigricans. Jacq. *Fl. Austr. v. 5. t.* 421.

T. seu Thalictrum majus. Raii *Syn.* 203. *Ger. em.* 1251.

FREQUENT in wet meadows, and on the banks of rivers and ditches, flowering in June.

Root yellow, perennial. Stem 2 or 3 feet high, upright, simple below, smooth, so strongly furrowed as to be almost angular, leafy. Leaves alternate, twice compounded in a ternate order: their common footstalk with a short sheathing base, and a toothed intrafoliaceous stipula; leaflets either undivided or three-cleft, entire, varying much in breadth and sharpness, veiny, glaucous beneath. Panicle terminal, erect, much branched, leafy, composed of many yellowish-white flowers, with yellow antheræ. Petals 4. Germens sessile, deeply furrowed. Styles none. Stigmas oblique, heart-shaped, downy.

We have compared our specimens with original ones of Jacquin's *T. nigricans* from himself, and find no specific difference.

The narrow-leaved variety mentioned by Lightfoot and figured in Morison, *Vol. 3. sec. 9. t. 20. f. 3.*, is neither rare nor important. It is still distinct enough from *T. angustifolium* of Linnæus, which is Morison's fig. 8 of the same plate.

Meadow-rue is so called from a certain vague resemblance to the Garden-rue, to which it has no other affinity. Though an acrid plant, it is eaten by cattle. A cataplasim made of the bruised leaves is a slight blister.



Lithospermum maritimum.

PULMONARIA maritima.

Sea Lungwort.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. funnel-shaped, pervious. Calyx prismatic, five-sided.

SPEC. CHAR. Calyx short. Leaves ovate. Stem much branched, procumbent.

SYN. Pulmonaria maritima. Linn. Sp. Pl. 195. Huds. Fl. An. 81. With. Bot. Arr. 194. Dicks. H. Sicc. fasc. 1. 3. Lightf. Scot. 134. t. 7.

Echium marinum. Raii Syn. 228.

A BEAUTIFUL ornament of the sandy sea-coasts of Scotland and the north of England, for specimens of which we are obliged to Mr. Robson. It flowers in July, and is perennial according to the opinion of most authors, though the observations of Dillenius in the *Hortus Elthamensis* seem to prove it biennial. There is no less uncertainty about the genus of this plant. It is certainly a very bad *Pulmonaria*, the calyx being too deeply divided to be deemed prismatic, which is also the case in *P. virginica* & *sibirica*. Dillenius (as well as Linnæus formerly) made it a *Cerithe*, with which it most agrees in habit, but the essential character of *Cerithe* is not to be found in the fruit. In fact the genera of this order (*Asperifoliæ*), though so multiplied, are many of them ill defined and unnatural, as we have before observed, p. 118.

The root is fleshy. Stems procumbent, much branched. Leaves ovate, entire, undulated, covered with a beautiful glaucous efflorescence, and sprinkled with minute cartilaginous tubercles, characteristic of the order. Flowers on longish simple flower-stalks, one or two together, sometimes axillary, and generally clustered about the extremities of the branches. Calyx glaucous, in 5 ovate acute segments, its base a little prismatic. Corolla with a short thick tube, and a small border in 5 obtuse segments, red at first, then blue; orifice a little toothed, but pervious. Stamina inserted about the middle of the tube, and projecting beyond the orifice. Stigma capitate. The whole plant turns black in drying, unless it be first immersed in fresh water for 24 hours to extract the sea-salt, according to Dillenius.



Ornithopus purpusillus

Jan 21. 1797 Published by J. Smokey London.

ORNITHOPUS perpusillus.

Common Bird's-foot.

DIADELPHIA Decandria.

GEN. CHAR. *Pod* jointed, cylindrical, curved.

SPEC. CHAR. Leaves pinnated. Pods curved upwards.

SYN. *Ornithopus perpusillus*. *Linn. Sp. Pl.* 1049.
Huds. Fl. An. 321. *With. Bot. Arr.* 782. *Relh.*
Cant. 276. *Sibth. Ox.* 225. *Curt. Lond. fasc.* 6.
t. 53.

Ornithopodium radice nodosa. *Raii Syn.* 326.

THIS pretty little flower prefers a gravelly or sandy soil, growing among grass in dry open pastures abundantly, as in Hyde Park beyond the spring, where it may be found in perfection in May, and occasionally to the end of summer.

Root annual, small and fibrous, sometimes, according to the observation of Doody in Ray's Synopsis, propagating itself by little fleshy tubercles, like those of *Vicia lathyroides*, see our *tab.* 30, in which case it does not ripen seed. Stems more or less procumbent, very various in length and luxuriance, leafy, downy. Leaves alternate, of about 5 to 10 or 12 pair of small elliptical leaflets, with a terminal one of the same size and figure, hairy, especially on the back. Stipulæ none. Flowers sessile in little terminal umbels, accompanied by a leaf. Standard and wings elegantly striped with red and white; keel greenish. Stigma capitate, naked. Pods a little curved upwards, with a very short beak; their joints tumid, so as to render them somewhat like a string of beads; in all which particulars they differ from *O. compressus* of Linnæus, which some botanists have suspected our English plant to be, but we have ascertained it by his herbarium to be *O. perpusillus*.

272.
1052.



Hypericum quadrangulum.

1797 Published by J. Lewis & Sons

HYPERICUM quadrangulum.

Square' St. John's Wort.

POLYADELPHIA Polyandria.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Filaments* numerous, united at the base into 3 or 5 sets. *Caps.* roundish.

SPEC. CHAR. *Styles* three. *Stem* four-edged, herbaceous. *Leaves* sprinkled with pellucid dots. *Calyx-leaves* lanceolate.

SYN. *Hypericum quadrangulum.* *Linn. Sp., Pl.* 1104. *Huds. Fl. An.* 334. *Relh. Cant.* 289. *Curt. Lond. fasc.* 4. *t.* 52.

H. quadrangulare. *Linn. Syst. Veg. ed.* 14. 701. *With. Bot. Arr.* 813. *Sibth. Ox.* 235.

H. Ascyron dictum caule quadrangulo. *Raii Syn.* 344.

COMMON in moist hedges, meadows, and banks of rivers, flowering in July and August.

Root woody, perennial, creeping. Stems several, perfectly erect, two feet high, leafy, very acutely quadrangular throughout, by which, and the smallness of the flowers, this species is readily distinguished from *H. perforatum*, *t.* 295. Leaves opposite, each pair crossing those next to them, elliptical or ovate, rather paler beneath, copiously dotted, bluntish, entire, but sometimes a little crisped in the margin, ribbed. The stem terminates in a paniced manner, with opposite many-flowered branches. Calyx-leaves lanceolate, narrow. Petals oblique, pale-yellow. We have not observed them so frequently dotted and streaked with dark purple as in the *H. perforatum*, though they sometimes are so. Antheræ with a dark purple gland.

Linnaeus appears by his herbarium to have confounded with this plant our *H. dubium*, *t.* 296, which we did not observe till now. That species however, though subject to be occasionally dotted in its leaves in a slight degree, still remains distinct from this and the common *perforatum* by its elliptical calyx-leaves, which never vary. We cannot here refrain from doing justice to the physiological judgment of our worthy friend Mr. Correa, who, when the *dubium* was first discovered, cautioned us against founding an absolute specific character upon the want of these pellucid dots.



*Hypericum
montanum.*

Tab. 1729. Delin. et Lith. J. Thunberg.

HYPERICUM montanum.

Mountain St. John's Wort.

POLYADELPHIA Polyandria.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Filaments* numerous, united at the base into 3 or 5 sets. *Caps.* roundish.

SPEC. CHAR. Styles three. Calyx with glandular serratures. Stem erect, round, smooth. Leaves ovate, naked.

SYN. *Hypericum montanum.* *Linn. Sp. Pl.* 1105. *Huds. Fl. An.* 333. *With. Bot. Arr.* 815. *Sibth. Ox.* 235.

H. elegantissimum non ramosum, folio lato. Raii Syn. 343.

FROM Charlton wood. This species, justly denominated elegant by the old writers, is found in various parts of England upon gravel or chalk, as between Norwich and Thorpe, upon wild shrubby hills. It flowers in July.

The root is perennial, producing several stems, which rise to the height of 2 feet or more, and are simple, round, smooth and leafy, most naked in the upper part. Leaves opposite, sessile, ovate, ribbed, smooth on both sides, entire, their margin dotted with purple beneath. Panicle terminal, upright, of several elongated forked branches, quite destitute of leaves, by which last mark (besides its smoothness) it is distinguished from *H. hirsutum*, but furnished with a few small opposite lanceolate bractæ, fringed with a row of brown glands on little foot-stalks. The calyx-leaves, which are lanceolate, are fringed in the same manner, and give the flowers a resemblance to the moss-rose. Petals lemon-coloured, elliptical, a little oblique, entire.



Lecidea icmudophila?

LICHEN ericetorum.

*Heath Lichen.**CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, granulated, greenish-white. Shields nearly sessile, flat, flesh-coloured, with a narrow whitish border.

SYN. Lichen ericetorum. *Linn. Sp. Pl.* 1608. *Huds. Fl. An.* 527. *Fl. Dan. t.* 472. *f.* 4:— β *Lightf. Scot.* 809. *With. Bot. Arr. v.* 3. 168.

L. Icmadophila. Linn. Suppl. 450. *Retz. Scand.* 273.

L. elveloides. Web. Gott. 186.

L. æruginosus. Scop. Carn. v. 2. 361. *Jacq. Fl. Austr. v.* 3. *t.* 275. *Murr. in Linn. Syst. Veg. ed.* 14. 958.—*Sibth. Ox.* 321?

THIS species is found occasionally on turfy heaths, growing generally on the ground, and forming large white or greenish patches, very conspicuous and beautiful in damp weather. The crust is not very thick; its under side is attached by numerous radicles; the upper one granulated, leprous to the sight, but not powdery to the touch. The shields are often immersed in the crust, more rarely elevated on extremely short foot-stalks. Their outside, and very narrow border, whitish; their disk quite flat and smooth, flesh-coloured; when young glaucous. When this Lichen grows on rotten wood, especially in the shade, its crust is of a light verdigrise green, as figured by Jacquin under the name of *æruginosus*. Dr. Smith found it so in woods at Matlock, and Mr. Davall in Switzerland. This however is clearly only a slight variety of the original *ericetorum* of Linnæus, which in its healthy unfaded state is always greenish. No species has been less clearly defined, Linnæus himself having confounded it with another very different kind (see our *tab.* 374); and English writers have in general been so indefinite upon the subject, it is not easy to understand which of these two they intended.

LICHEN *byssoides*.
Brown Mushroom Lichen.

CRYPTOGAMIA *Algæ*.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, granulated, greenish white, Tubercles on foot-stalks, nearly globular, reddish brown.

SYN. Lichen *byssoides*. *Linn. Mant.* 133. *Lightf. Scot.* 809. *Huds. Fl. An.* 527? *With. Bot. Arr.* v. 3, 165. *Relh. Cant. Suppl.* 1, 22.

L. rufus. *Huds. Fl. An.* 527. *With. Bot. Arr.* v. 3, 171. *Retz. Scand.* 274.

L. fungiformis. *Web. Gott.* 196. *Sibth. Ox.* 322.

Lichenoides fungiforme terrestre, capitulis fuscis. *Raii Syn.* 70.

Coralloides fungiforme saxatile, pallide fuscum. *Dill. Musc.* 78. t. 14. f. 4.

β *Fungi parvi globosi, ex ungue equino putrescente enati*. *Raii Syn.* 13. t. 1. f. 4.

Coralloides fungiforme ex ungula equina livide rubescens. *Dill. Musc.* 78. t. 14. f. 5.

THE crust is much like that of the preceding, thinner when it grows on stones than when on the ground, which last is its most general situation. Our specimens came from Epping forest, Hornsey wood, and a moor near Glasgow. The tubercles are brown, more or less reddish, convex, and sometimes quite globular, elevated on whitish, cylindrical or compressed (sometimes furrowed), footstalks, so that they resemble a minute Agaric or Boletus. Sometimes 2 or more stand on the same footstalk.

We have been at some pains to investigate the synonyms of this species, and think there can be no doubt of those above quoted. There seems to be no difference between the *rufus* and *byssoides* of Mr. Hudson, except a greater or less convexity of the tubercles, which is no essential distinction. The *rufus* stands right in his 1st edition, with the proper synonym of Dillenius; but in the 2d edition he has quoted *tab.* 14. f. 2, of the same author, which is one of the *Lichenes pyxidati*, as appears by its leafy base, referring *fig.* 4 and 5, properly enough indeed, to the *L. byssoides* of Linnæus, which he thought it necessary to admit into this 2d edition. We are not without a suspicion that Hudson might consider as *L. byssoides* the *Mucor lichenoides* of Linnæus, which he has under that name in his 1st edition, but not in the 2d. If so, he should have quoted *Dill. f.* 3. This is a true *Lichen*, of which we hope one day to give a representation,

3/4
1803



Bæomyces roseus.

Jan 7. 1799. Published by P. Borel, London.

L I C H E N Bæomyces.

Pink Mushroom Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, granulated, greenish white, Tubercles on footstalks, tumid, lobed, flesh-coloured.

SYN. Lichen Bæomyces. *Linn. Suppl.* 450. *Retz. Scand.* 273. *Sibth. Ox.* 321.

L. ericetorum. *Web. Gott.* 195. *α Lightf. Scot.* 809, *With. Bot. Arr. v. 3.* 167.

L. fungoides. *Swartz. Ind. Occ.* 146. *Gmel. Syst. Nat.* 1357.

Lichenoides fungiforme, *crusta leprosa candida*, capitulis & pediculis incarnatis. *Raii Syn.* 70.

Coralloides fungiforme carneum, *basi leprosa.* *Dill. Musc.* 76. *t. 14. f. 1.*

THIS very elegant species is much more rare than the two last described. Dr. Smith found it on a mountainous heath in Montgomeryshire, and it is said to grow in Scotland and the north of England. Dillenius says, no one had found this Lichen in England except Dr. Richardson. Mr. Lightfoot was evidently acquainted with it; but whether any other British writer has seen it, or merely copied it from Dillenius, may be doubted. It is certainly distinct enough from the original *ericetorum* of Linnæus, see our *tab.* 372, indeed much more so, as Lightfoot observes, than from the *byssoides*, *t.* 373. The crusts of all these are nearly alike; green or greyish when young, and in moist weather; white when old and dry. Their surface granulated and tuberculated, not powdery. But the beautiful pink-coloured fructification of *L. Bæomyces* clearly distinguishes it, being so different in hue from that of the *byssoides*, and also much larger, more lobed, and variously formed. The colour of its tubercles is similar to the flat shields of the *ericetorum*, but more vivid, of a wax-like hue, not scarlet as in *L. cocciferus*. These tubercles are spongy within. Their stalks whitish, compressed and furrowed, so that they might easily be taken for a little species of *Helvella*, were it not for the crust out of which they grow, their firm and durable texture, and want of a fungous smell.



Gentiana verna L.

CAMPANULA hybrida.

Corn Bell-flower.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. bell-shaped, closed at the bottom by valves bearing the stamina. Stigma 3-cleft. Capsule inferior, opening by lateral pores.

SPEC. CHAR. Stem often branched from the base. Leaves oblong, crenate and undulated. Corolla rotate, shorter than the calyx. Capsule prismatic.

SYN. Campanula hybrida. Linn. Sp. Pl. 239. Huds. Fl. An. 97. With. Bot. Arr. 219. Relh. Cant. 95. Sibth. Ox. 81.

C. arvensis erecta, vel Speculum Veneris minus. Raii Syn. 278.

SENT by the Rev. Mr. Hemsted from Cambridgeshire. It is found also in Norfolk and Suffolk, in corn-fields on a chalky soil, but by no means frequently, flowering towards autumn.

Root small, fibrous and annual. Stem nearly erect, with a tendency to branch more or less at the base as well as in the upper part, very various in luxuriance, a little zigzag, angular, roughish, leafy. Leaves alternate, undulated, sparingly crenate, rough, especially on the margin. Flowers terminal, solitary, sessile among a few leaves. Germen prismatic, long, roughish. Calyx-leaves about half as long as the germen; lanceolate, revolute, hairy. Corolla very small, rotate, half as long as the calyx-leaves, seldom fully expanded, pale purple. Style and stigma club-shaped, hairy.

Such is the description of our plant, which will not be found to accord exactly with what Linnæus has said. His remarks however agree with his original specimen now before us, which is apparently a cultivated one, with very long linear calyx-leaves, and a very small corolla. The stem too is upright and smooth. From the consideration of many wild as well as cultivated specimens of *C. Speculum* and *hybrida*, we are persuaded they are varieties of each other, and that the calyx-leaves in both are very variable in length and breadth, as well as the corolla in size.

37.
239.



Potamogeton lucens.

Bot. Mag. 1840. 1841. 1842. 1843. 1844. 1845. 1846. 1847. 1848. 1849. 1850.

POTAMOGETON lucens.

Shining Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves flat, ovato-lanceolate, tapering down into foot-stalks. Spike dense, many-flowered.

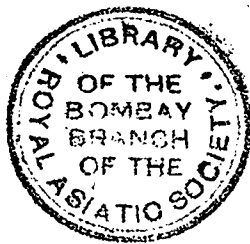
SYN. Potamogeton lucens. *Linn. Sp. Pl.* 183. *Huds. Fl. An.* 74. *With. Bot. Arr.* 173. *Relh. Cant.* 71. *Sibth. Ox.* 65.

P. aquis immersum, folio pellucido, lato, oblongo, acuto. *Raii Syn.* 148.

FREQUENT in ditches, ponds, lakes or slow-flowing rivers, chiefly on a clay soil, growing, like most others of its genus, all immersed in the water, except the spike of flowers, which appears above the surface about midsummer, or a little after.

The root is perennial, stems long, nearly simple, a little zigzag, leafy, round. Leaves alternate (except where the flowers are situated) lanceolate or ovate, entire, a little waved, ribbed, running down into a short foot-stalk, and accompanied by a long obtuse folded intrafoliaceous stipula, longer than each joint of the stem. The flowers grow in a long dense spike, on a round tumid stalk, which stands solitary in the axilla of one of the opposite leaves, and is sheathed at the bottom by the stipula. Flowers dark green, the stigma often purplish.

There are two common varieties of this species, one of which has lanceolate leaves, tapering down very gradually to their insertion. This being figured in the *Flora Danica*, t. 195, and most other authors, we have represented the other variety, No. 2 of Withering, whose leaves are perfectly ovate, and placed on a real foot-stalk, less perceptibly winged by the running down of the leaf: these two plants however differ in no other respect, and may easily be traced one into the other.





Root, 1799, collected by J. Tournefort, Linn.

SCILLA nutans.
Hure-bell, or Wild Hyacinth.

HEXANDRIA Monogynia.

GEN. CHAR. Cor. of 6 petals, spreading, deciduous.
Filaments of equal thickness throughout.

SPEC. CHAR. Root solid. Spike drooping. Flowers pendent, bell-shaped, somewhat cylindrical, their tips reflexed. Bractææ in pairs, acute. Leaves flaccid.

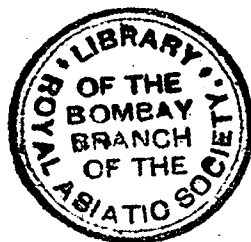
SYN. *Hyacinthus non-scriptus*. Linn. *Sp. Pl.* 453.
Huds. Fl. An. 141. *With. Bot. Arr.* 356. *Relh. Cant.* 136. *Sibth. Ox.* 110. *Curt. Lond. fasc.* 2. t. 18.

H. Anglicus. *Raii Syn.* 373.

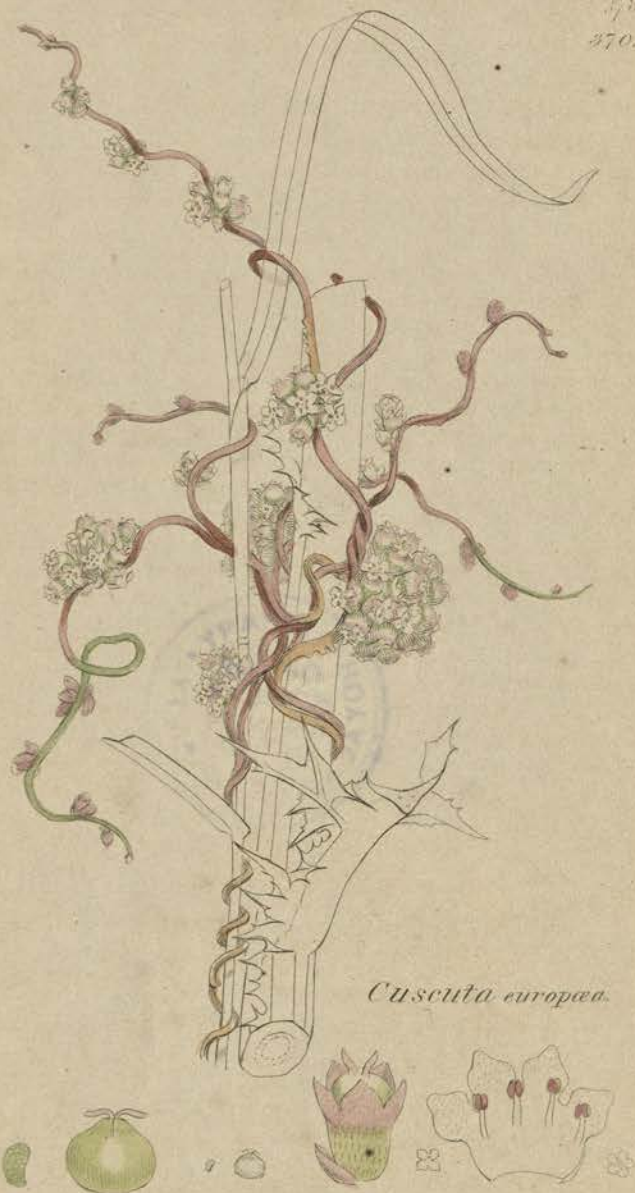
COMMON in thickets, bushy fields, and under dry hedges, flowering in May.

Bulb white, solid, acrid and poisonous, but abounding with the mucilage which makes starch. Leaves linear, channelled, acute, flaccid, reflexed from within 2 or 3 inches of their summit, of a greyish green. Stalk erect, a little higher than the leaves, terminating in a drooping spike of from 6 to 10 pendent alternate flowers, each standing on a little blue flower-stalk, accompanied by a pair of linear acute bractææ of the same colour. Petals nearly linear, perfectly distinct at the base, but approaching each other so as to form a cylindrical figure for about two thirds of their length, when they become suddenly recurved and spreading. Stamina united for a considerable way to their corresponding petals, uniform and thread-shaped. Germen with 6 sides; but we agree with Dr. Withering and Mr. Relhan, that it is destitute of the honey-pores which make the character of a *Hyacinthus*. Style simple. Stigma blunt, moist.

So many authors have been at a loss to find the honey-pores in *any* species of *Hyacinth*, that the want of them in this would hardly justify the removing it to the genus of *Scilla*; but the corolla being of 6 distinct petals, added to its perfect affinity with *S. campanulata*, *Hort. Kew.* and, as Dr. Stokes justly remarks, with other species of that genus, will, it is hoped, justify this alteration, which has often been hinted at, but never ventured upon entirely. M. de Jussieu has thought the character of *Hyacinthus* ought to depend on the corolla, rather than on the pores of the germen, and he also would therefore exclude this species from thence. For a specific name *hyacinthina* would gladly have been chosen, but there is already a *S. hyacinthoides*. *Nutans* expresses an essential part of its specific character, and any thing is better than *non-scriptus*. The flowers are fragrant, and sometimes vary to white or flesh-coloured.



175.
170.



Cuscuta europaea.

Scutellaria tuberosa L. *Scutellaria* L.

CUSCUTA europæa.

*Greater Dodder.**TETRANDRIA Digynia.*

GEN. CHAR. *Cal.* 4-cleft. *Corolla* of one petal. *Cap-
sule* 2-celled.

SPEC. CHAR. Flowers nearly sessile. *Corolla* without
scales. Stigmas simple.

SYN. *Cuscuta europæa.* *Linn. Sp. Pl.* 180. *With.*
Bot. Arr. 165. *Fl. Dan. t.* 199. inaccurate.

WE have been led into an error in the first volume of this work, p. 55, concerning the most common British *Cuscuta*, which, from trusting too much to the Linnæan specific character, we there published as the *europæa*, notwithstanding Dr. Stokes's just remarks in the *Bot. Arr.* which ought certainly to have warned us. We however take the first opportunity of correcting this error, Mr. Sowerby having last autumn received wild specimens of the real *europæa* from Mr. Alexander Smith of Aberdeen, and others from the Rev. Mr. Hemsted, which have at the same time verified the plant as a native of Britain, and helped us to fix an essential character between that and the other. This character consists in the total want of the nectary, or more properly scales, at the base of the stamina. The true *europæa* is also larger in all its parts, except that the styles are rather shorter, and generally more divaricated. The simple stigmas of both these species distinguish them from *C. americana*, which has capitate stigmas. The number of stamina, and segments of the corolla, varies from 4 to 5 in all the species; the latter we have found the most prevailing, at least in the *Epithymum*, *americana*, and a new East Indian species; so that perhaps the genus ought to be removed to the 5th class. *C. europæa* grows parasitically upon nettles, flax, thistles, &c. flowering in August and September. The corolla is very thin, pellucid, reticulated, and permanent.

We beg leave to substitute the following synonyms and characters for those already given to our *Tab.* 55.

CUSCUTA Epithymum.

Lesser Dodder.

SPEC. CHAR. Flowers sessile. A fringed scale close at
the base of each stamen. Stigmas simple.

SYN. *Cuscuta Epithymum.* *Linn. Syst. Veg. ed.* 13.
140. *With. Bot. Arr.* 166. *Fl. Dan. t.* 427. bad.

THE synonym of Ray probably belongs to this, being by far the most common, but the *C. major* of Bauhin must be the other. British authors in general have either confounded the two, or taken, as we did, the *Epithymum* for the *europæa*.

476. 37



Stratiotes.
aloides.

March 1. 1797. Published by P. L. & Co. London.

S T R A T I O T E S aloides.

Water Aloe, or Water Soldier.

POLYANDRIA Hexagynia.

GEN. CHAR. *Spatha* of 2 leaves. *Inner Calyx* superior, in 3 segments. *Petals* 3. *Berry* with 6 cells.

SPEC. CHAR. Leaves sword-shaped, channelled, with a prominent rib, fringed with sharp prickles.

SYN. *Stratiotes aloides*. *Linn. Sp. Pl.* 754. *Huds. Fl. An.* 236. *With. Bot. Arr.* 564. *Relh. Can.* 207.

S. foliis Aloes, *semine longo*. *Raii Syn.* 290.

THIS elegant aquatic is scarcely found in any other part of England than Lincolnshire, Cambridgeshire and Norfolk, where it grows in the deep ditches of the fens, sometimes so copiously as to occupy the surface entirely, to the exclusion of all other plants. We received fresh specimens from Mr. William Skrimpsire of Wisbeach. It flowers in July.

The *Stratiotes* is a stoloniferous plant, and truly perennial, though each root flowers but once, as in some species of *Saxifraga*, *Sempervivum*, &c. The parent plant, rooted in the mud at the bottom of the ditch after flowering, sends out buds of leaves at the end of long runners, which rise to the surface, form roots, blossom, and then sink to the bottom, where they take hold of the mud, sometimes ripen their seeds, and always become in their turn the parents of another race of young offsets. The leaves are all radical, forming a star-like tuft, as in the *Aloe* and *Sedum* tribe. Their substance is rigid, brittle, vascular and pellucid; their teeth and points very sharp. Flower-stalks several, short, erect, somewhat compressed, smooth, each bearing one erect white flower, arising from a two-leaved sheath. The stamina are short, with awl-shaped antheræ. Germen above the sheath, but much below the calyx. Styles 6, cloven, rising a little above the stamina. Linnæus in his manuscripts quotes Bergen; Zinn and Fabricius as having found the flowers dioicous, whereas he always observed them to be hermaphrodite. We have seen the stamina apparently imperfect in some flowers, and the styles in others. The genus is very near akin to *Hydrocharis*, and perhaps ought to be united with it.

381.

455.



Linum angustifolium.

non. 1. 1799. Published by J. Hancock, London.

D A C T Y L I S stricta.

Smooth Cock's-foot Grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, compressed; one valve larger and carinated.

SPEC. CHAR. Spikes 2 or 3, erect, smooth; flowers leaning one way, downy.

SYN. *Dactylis stricta.* Solander in *Ait. Hort. Kew.* v. 1. 104.

D. cynosuroides. Huds. *Fl. An.* 43. *With. Bot. Arr.* 93.

Spartum essexianum, *spica gemina clausa.* *Raii Syn.* 393.

FOUND, though rarely, in muddy salt-marshes and about the mouths of rivers on the east side of this kingdom. Our specimens were gathered by T. Woodward and D. E. Davy, Esqrs., between Aldborough and the river's mouth, in August last.

Root perennial, very strong. The whole herb is exceedingly hard and rigid, from 10 to 20 inches high, erect; the straws clothed to the top with alternate, sheathing, striated, pointed leaves, of a dull green, with short jagged stipulæ. Spikes terminal, generally 2, perfectly erect, close pressed together and nearly equal, set with 2 ranks of flowers on one side. The common stalk is angular, a little zigzag, smooth. Glumes of the calyx downy, containing a single floret. Antheræ projecting, pale-purple or brownish. Stigmas feathery, united at the base into a simple style.

Linnaeus received specimens of this grass from Læfving, gathered in Portugal. He confounded it with his *D. cynosuroides*, which is a native of America, and widely different, growing to a much greater size, and bearing a large panicle of very numerous spikes, whose stalks, as well as the carina of the calyx, are rough with minute spinous teeth, and the flowers are more crowded than in *D. stricta*.

388.
455.



Linum angustifolium.

non. 1. 1757. Published by J. B. de la Roche, Paris.

LINUM angustifolium.

Narrow-leaved Flax.

PENTANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5. *Caps.* with 10 valves and 10 cells. *Seeds* solitary.

SPEC. CHAR. Calyx obsoletely three-nerved, sharp-pointed, as well as the capsule, and linear-lanceolate three-nerved leaves. Stems numerous, a little inclined.

SYN. *Linum angustifolium.* *Huds. Fl. An.* 134. *With. Bot. Arr.* 329.

L. tenuifolium ? *Linn. Sp. Pl.* 399.

L. sylvestre angustifolium, floribus dilute purpurascens vel carneis. *Raii Syn.* 362.

COMMUNICATED by D. E. Davy, Esq., who found it wild in great plenty at Darsham, Suffolk, flowering in July. It occurs in dry sandy pastures, especially near the sea; and is said to be most plentiful in Cornwall and Devonshire.

Linnæus very improperly confounded this with his *L. tenuifolium*, which has a very long-pointed calyx with glandular serratures, and leaves with rough edges and only a central nerve. That is Haller's No. 838, as we learn from Mr. Davall. Ours is most nearly allied to *L. usitatissimum* in the structure of all its parts, except in having a woody perennial root producing many stems; it differs also at first sight in having smaller paler flowers. The leaves have 3, sometimes 5, nerves, their edges entire and smooth. Calyx-leaves smooth, elliptical, with a sharp point; in the flowering state scarcely more than one nerve is visible, but as the fruit ripens the calyx becomes distinctly 3-nerved. The petals are entire, or slightly notched. Valves of the capsule distinctly 10, cohering by their inflexed margins, which make the partitions of the 10 cells. We have therefore altered the generic character, as M. de Jussieu has done, to 10 (not 5) valves. We cannot however agree with that learned botanist in referring this genus to his order of *Caryophyllææ*. Surely it belongs to the *Gerunia*. The cells of the capsule are closely analogous to *arilli*, and about the rest of the characters there can be no doubt. See *Juss. Gen.* 303.

L. perenne, *tab.* 40, is sufficiently distinguishable from this species by its more obtuse 5-nerved calyx, and more capitate stigmas.

382.
436.



Linum catharticum.

Handb. 1797. Pallas skildt af P. Smarck, Jernbo.

L I N U M catharticum.

Purging Flax.

PENTANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5. *Caps.* with 10 valves and 10 cells. *Seeds* solitary.

SPEC. CHAR. Leaves opposite, obovato-lanceolate. Stem forked. Petals pointed.

SYN. *Linum catharticum.* *Linn. Sp. Pl.* 401. *Huds. Fl. An.* 134. *With. Bot. Arr.* 330. *Relh. Cant.* 131. *Sibth. Ox.* 106. *Curt. Lond. fasc.* 3. t. 19. *Mart. Fl. Rust. t.* 135. *Dicks. H. Sicc. fasc.* 3. 7.

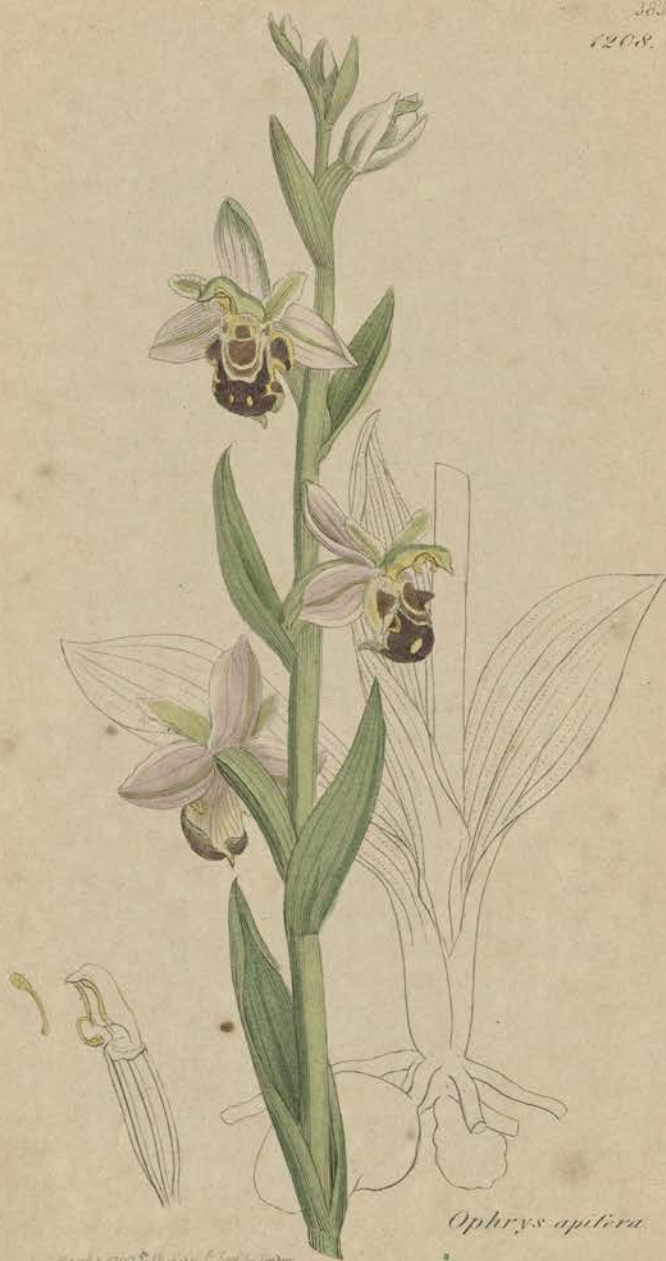
L. sylvestre catharticum. *Raii Syn.* 362.

VERY common in dry open hilly pastures, where it may be found in flower from June to the end of August.

The root is annual and very small. Stems several, round, bowed at the base, then upright and simple, till they branch off into a forked, leafy, slender-stalked panicle. Leaves opposite, sessile, upright, inclining to an obovate or elliptical form, obtuse with a slight point, entire, glaucous beneath. The whole herb is smooth. When the panicle begins to branch off, its lower branches, as well as the leaves that accompany them, are alternate. Flowers terminal, solitary, drooping in the bud, then erect, white, not unlike those of an *Arenaria*. Calyx-leaves ovato-lanceolate, pointed, serrated, with a solitary nerve. Petals obovate, pointed. Stamina monadelphous. Stigmas capitate. Capsule with 10 valves, but before they are quite ripe they cohere in pairs by means of the permanent styles.

Gerarde calls this Mill-mountaine, and celebrates it as a purge on the authority of a Bishop of Bath and Wells, who used it commonly for that purpose. His receipt is a handful of the herb infused in a pint of warm white wine all night, and drunk in the morning. Dr. Withering recommends an infusion of 2 drams or more of the dried herb, as an excellent cathartic (and sometimes a diuretic) in many obstinate rheumatisms.

363
1208.



Ophrys apifera

March 1807. Th. Marten. Col. 1. 1000.

O P H R Y S apifera.

*Bee Orchis.**GYNANDRIA Diandria.*

GEN. CHAR. Nectary consisting of a lip only, slightly
 . carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip
 roundish, convex, downy above, in five inflexed
 divisions, the terminal one acute and recurved.

SYN. Ophrys apifera. *Huds. Fl. An.* 391. *Curt. Lond.*
fasc. 1. t. 66. With. Bot. Arr. 993. *Relh.*
Cant. 339. *Sibth. Ox.* 13.

Orchis fuciflora galea et alis purpurascens. *Raii*
Syn. 379.

FOUND occasionally in pastures, chiefly on a chalky soil,
 and sometimes in great plenty, flowering about July.

Mr. Hudson has justly discriminated the three British species
 of insect-like Orchises, 2 of which we have already figured
tab. 64 and 65. That now before us is most allied to the
aranifera, from which it differs in having the 3 larger petals
 reddish, but more especially in the very different form of the
 nectary, which has five lobes instead of three; and instead of
 terminating with a notch, the central lobe forms a recurved
 point, compared, by those who draw analogies very closely, to
 the sting of the bee. Professor Murray, in attempting to di-
 stinguish these species in the 14th edition of *Linn. Syst. Veg.*
 has confounded the *apifera* with the *arachnites* of Linnæus,
 which is not an English plant, and which, though it in some
 respects resembles our *apifera*, has not the sharp recurved lobe
 of the nectary, but in its stead various obtuse flat segments.

The Bee Orchis is generally a favourite with all admirers of
 plants, and has by that means become rare in the neighbour-
 hood of London and other great towns, having been rooted
 out by the rapacity of cultivators.



*Galium
anglicum.*

Herb. 1797 Published by J. Sowerby London.

G A L I U M anglicum.

Small Ladies-bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. *Cor.* of one petal, flat. *Seeds* two, roundish.

SPEC. CHAR. Leaves about six in a whorl, lanceolate, pointed, ciliated with prickles. Stem straggling, rough. Flower-stalks cloven. Fruit without hairs.

SYN. *Galium anglicum.* *Huds. Fl. An.* 69. *With. Bot. Arr.* 153.

G. parisiense. *Relh. Cant.* 67. *Linn. Sp. Pl.* 157?

Aparine minima. *Raii Syn.* 225. t. 9. f. 1.

SENT from Cambridgeshire by the Rev. Mr. Hemsted. It is found also in Norfolk and Suffolk, though very rarely, for the most part upon walls in a dry sandy soil, flowering in June and July, after which the plant is soon dried up and perishes.

Root small, annual. Stems several, spreading, branched, square, their angles rough with reflexed bristles. Leaves small, about 6 in a whorl, reflexed, lanceolate, pointed, their edges, and sometimes their upper surface, rough with bristles pointing forwards. Flower-stalks terminal, slender, smooth, forked, with a pair of leaves at their first divarication, and here and there a minute solitary leaf above. Flowers pale greenish yellow, very small, with pointed ribbed petals. Germen and fruit destitute of hairs, but when magnified they appear rough with minute tubercles.

This may possibly be, as Dr. Stokes suspected, merely a variety of the *G. parisiense* of Linnæus; for no difference is discoverable between his original specimens and ours, except the fruit of the former being thickly clothed with prominent hairs. Whether the abovementioned tubercles on the fruit of *G. anglicum* may, in any circumstances, produce such hairs, has not yet been ascertained. In the mean while we here exhibit what is undoubtedly Mr. Hudson's plant, as well as Ray's, that there may be no uncertainty about that part of the question in future.

974.

*Geranium pusillum.*

Printed by J. Smith, at the British Museum.

GERANIUM pusillum.

*Small-flowered Cranesbill.**MONADELPHIA Decandria.*

GEN. CHAR. *Style one. Petals 5, regular. Nectary 5 glands at the base of the longer stamina. Fruit beaked, separating into 5 seed-cases, each tipped with a long simple naked awn.*

SPEC. CHAR. *Stalks two-flowered. Petals notched. Leaves kidney-shaped, palmate, cut. Seed-cases even, carinated, downy with erect hairs. Seeds smooth.*

SYN. *Geranium pusillum. Linn. Sp. Pl. 957. Huds. Fl. An. ed. 1. 266. With. Bot. Arr. 733. Relh. Cant. 262. Cavan. Diss. 202. t. 83. f. 1. Dicks. Dr. Pl. 78.*

G. molle β *Huds. Fl. An. ed. 2. 303.*

G. parviflorum. Curt. Lond. fasc. 6. t. 46.

G. malvæfolium. With. Bot. Arr. ed. 3. 603. Scop. Carn. v. 2. 37.

G. humile. Cavan. Diss. 202. t. 83. f. 2.

G. columbinum humile, flore cæruleo minimo. Raii Syn. 359. t. 16. f. 2.

COMMON in various parts of England on waste ground, especially on a gravelly soil, though till very lately not well distinguished from *G. molle* and *rotundifolium*. It differs from the former in having an even and downy, not wrinkled and naked seed-coat, and from the latter in the downiness of that part being close-pressed, or at least pointing upwards, not spreading, and the seeds smooth, not dotted, as we long ago observed. See *t. 157*. The petals moreover scarcely exceed the calyx, and are notched, yet not so deeply cloven as those of *molle* and *pyrenaicum*, with which last, though widely different in size and appearance, *pusillum* has more affinity in structure than with any others of this intricate tribe.

The root is annual. Stems prostrate, unless supported by other plants, branched, varying extremely in luxuriance. Hence the small variety figured by Dillenius in Ray's Synopsis has been thought a distinct species, or the true state of the plant, while the larger was referred to *molle*. Leaves in sharp generally linear segments. Flowers small, pale purple. Calyx without awns. Five of the stamina only perfect. It flowers from June to September, and in sensible qualities agrees with *molle*.

We lament that we cannot follow our candid and judicious friend Dr. Withering in the trivial name. The leaves are less like those of Mallows than most others. *Pusillum*, from the minute flowers, is very expressive, nor is there any reason to change it to *parviflorum*.



Cnicus eriophorus.

Wm. B. Smith del. & sculp.

CARDUUS eriophorus.

Woolly-headed Thistle.

SYNGENESIA *Polygamia-æqualis.*

GEN. CHAR. *Cal.* ovate, imbricated with spinous scales.

Receptacle hairy.

SPEC. CHAR. Leaves sessile, pinnatifid, every other segment pointing upwards. Calyx globular, woolly.

SYN. *Carduus eriophorus.* *Linn. Sp. Pl.* 1153. *Huds.*

Fl. An. 354. *With. Bot. Arr.* 375. *Relh. Cant.*

307. *Sibth. Ox.* 246.

C. tomentosus, *Corona fratrum dictus.* *Raii Syn.* 195.

THE thistle here delineated is the largest British species, and generally esteemed the most uncommon; we have however observed it in various parts of this island on a calcareous soil. Mr. Jacob Rayer gathered the present specimen in Hampshire in August last.

The root is biennial. Stem 3 feet or more in height, erect, much branched, many-angled, hairy. Leaves spreading, alternate, sessile, deeply pinnatifid with two ranks of oblong divaricated segments, alternately pointing upwards and downwards, and armed with very strong spines. The upper side of the leaves is rough with small rigid close-pressed bristles; the under clothed with cottony down. Flowers solitary, terminating the branches, erect, very large, 6 or 8 inches in circumference. Calyx globular, or somewhat depressed; its scales numerous, spreading, thickly interwoven with wool, and mostly terminating in a linear blunt leafy appendage, ciliated and tipped with spines. Florets slender, purple. The radical leaves are often two feet long, and their segments (as Mr. Woodward observes) are much more distinctly ranged in two ranks than those on the stem. The flowers are now and then found white.

38,
703.



Ranunculus Flammula.

RANUNCULUS Flammula.

Lesser Spear-wort.

POLYANDRIA Polygynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5, with a honey-bearing pore on the inside of the claw of each. *Seeds* naked.

SPEC. CHAR. Leaves ovato-lanceolate, on foot-stalks. Stem declining.

SYN. *Ranunculus Flammula.* *Linn. Sp. Pl.* 772. *Huds. Fl. An.* 239. *With. Bot. Arr.* 571. *ed.* 3. 504. *Relh. Cant.* 211. *Sibth. Ox.* 171. *Curt. Lond. fasc.* 6. *t.* 37.

R. flammeus minor. *Raii Syn.* 250.

THIS grows very frequently in watery places in a black spongy soil, flowering throughout the summer.

The long fibrous perennial roots run deep into the ground, producing numerous round branched leafy smooth hollow stems spreading in every direction, and sometimes prostrate. Leaves on channelled foot-stalks, lanceolate, acute, many-ribbed, various in size, smooth, partly entire and partly serrated more or less strongly, in which respect they are very variable. Flowers on long round flower-stalks, terminating the stem and branches, of a bright gold-colour. Calyx reflexed, often slightly hairy. Honey-pore in the claw of the petals very small. Seeds smooth.

At page 100 of this work, *Vol.* 2, we have figured and described the more uncommon *R. Lingua*, which is nearly allied to that now described, differing only in its greater size, erect stem, and more sessile leaves. We believe them however to be truly distinct, though we cannot say the same of *R. reptans*, which appears to be a small creeping variety of *R. Flammula*. Dr. Withering in his 3d edition recommends the distilled water of this plant as preferable to any other medicine for procuring instantaneous vomiting in cases of poison. Every part of the herb is highly acrid, and blisters the skin.

300

917.



Draba incana.

1789. Bot. in the Herbar. of the University of London.

D R A B A incana.

Twisted-podded Whitlow-grass.

TETRADYNAMIA Siliculosa.

GEN. CHAR. *Pouch* entire, long oval ; valves flattish, parallel to the partition. *Style* none.

SPEC. CHAR. Stem-leaves numerous, hoary. Pouches oblong, obliquely twisted.

SYN. *Draba incana.* *Linn. Sp. Pl.* 897. *Huds. Fl. An.* 279. *With. Bot. Arr.* 669. *ed.* 3. 566. *Fl. Dan. t.* 130. *Lightf. Scot.* 338.

Lunaria contorta major. *Raii Syn.* 291.

A VERY rare inhabitant of alpine calcareous situations, in Wales, Westmoreland, and Scotland. The root is biennial, flowering early in the second summer. The specimen here represented was sent from Scotland young, by Mr. Mackay near Edinburgh, and being planted in a garden, flowered more luxuriantly than is usual on rocks or walls ; but the plant often grows as large in rich moist spots even on its native mountains. The specimen in *Flora Danica* is a starved one.

Root long, branched. Stem erect, hairy. Leaves ribbed, hoary : the radical ones lanceolate, forming a thick rose-like tuft : those on the stem sessile, alternate, ovate or wedge-shaped, variously dentate and notched. Flowers small, white, in a terminal corymbus, which is soon lengthened out into a racemus. Petals inversely heart-shaped. Stigma notched. Pods oblong, smooth, tipped with the permanent stigma, and singularly twisted half round. Seeds several.

The stem in poor specimens is simple, in more luxuriant ones branched in an alternate manner.



Bryum pyriforme.

Hook. & Grev. Bot. Beechey, f. Twenty Seven.

B R Y U M aureum.

Golden Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* with a lid. *Veil.* smooth. *Flower-stalk* from a terminal tubercle.

SPEC. CHAR. Capsule drooping, pear-shaped with a stricture in the middle. Leaves bristle-shaped.

SYN. *Bryum aureum.* *Huds. Fl. An.* 487. *Dicks. H. Sicc. fasc.* 8. 19.

Mnium pyriforme. *Linn. Sp. Pl.* 1576. *With. Bot. Arr. v.* 3. 89.

B. trichodes aureum, capsulis piriformibus nutantibus. *Dill. Musc.* 391. *t.* 50. *f.* 60.

THE rare and elegant little moss here delineated was originally found by Dr. Deering on the rocks of Nottingham-park, and sent by him to Dillenius. Mr. Hudson seems never to have gathered it. Mr. Crowe and Mr. Dickson found it some years ago in Surry, and Dr. Smith met with it very unexpectedly in 1790, as well as repeatedly since, on the inside of the walls of some frames for green-house plants, in the garden of Messrs. Lee and Kennedy, Hammersmith, perfecting its capsules in July, as the Rev. Mr. Wood of Leeds likewise observed them in Wales.

The stems grow erect, in little tufts, to the height of $\frac{3}{4}$ of an inch, and are clothed with light green, very delicate and slender, tapering, entire leaves, some of the uppermost of which are much longer than the rest, forming a tuft or star, in the centre of which stand the antheræ in some individuals, and in others the fruit-stalk (for so the *pedunculus* may properly be called in this tribe), which arises, from an oblong tubercle, to the height of above an inch. This stalk is capillary, slightly waved, of a vivid gold or orange colour. Capsules pear-shaped, green when young, ripening into the same bright colour as the stalk, closed with an hemispherical lid, covered when young with a white slender veil which Dillenius never saw. The capsule is bordered with 16 spreading white teeth, and closed with other unequal ones besides, according to Hedwig's character of *Bryum*.



Bartramia fontana.

'BRYUM fontanum.

Fountain Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* with a lid. *Veil* smooth. *Flower-stalk* from a terminal tubercle.

SPEC. CHAR. Capsule oblique, roundish. Stem branched. Leaves ovate, acute, a little remote, entire.

SYN. *Bryum fontanum.* *Huds. Fl. An.* 475. *Sibth. Ox.* 289.

B. palustre, scapis teretibus stellatis, capsulis magnis subrotundis. *Dill. Musc.* 340. *t.* 44. *f.* 2.

Mnium fontanum. *Linn. Sp. Pl.* 1574. *With. Bot. Arr. v.* 3. 85. *Lightf. Scot.* 708.

Muscus palustris *Adianto aureo* affinis, scapis tenuibus, foliolis brevibus. *Raii Syn.* 98.

FREQUENT in the boggy soil about clear cold springs on mountainous commons and heaths, very conspicuous at a distance from the wide yellowish patches it forms in such situations, and often occupying the whole course of a rivulet through a small alpine meadow.

Roots perennial, tufted, brown, stems erect, thickly clustered together, leafy, slender, generally once divided into 3 or more branches from one centre, with now and then a straggling branch besides, so that we could scarcely have believed Linnæus had intended the same moss, were not his own Lapland specimens now before us. The leaves are small, ovate, sharp-pointed, but little spreading, frequently so thinly set that the red stem appears between them. Male flowers in large terminal heads, consisting of numerous yellow antheræ, surrounded by a circle of large spreading leaves. Fruit-stalks from the divarication of the branches on a different plant from the male flowers, long, slender, each bearing a large globose oblique capsule, with a small beaked lid. These capsules are to be found throughout the summer.

We do not hesitate to refer this and the preceding to the genus *Bryum* rather than *Mnium*, as the male flowers of the latter ought to be quite naked. Linnæus ran counter to that definition in reckoning every thing a *Mnium* in which male flowers were discoverable at all, whether naked or leafy.



Bryum palustre.

Mar. 1797. Published by J. Smith, London.

BRYUM palustre.

Marsh Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* with a lid. *Veil* smooth. *Flower-stalk* from a terminal tubercle.

SPEC. CHAR. Capsule oblique, oblong. Stem branched and forked. Leaves lanceolate, pointed, waved, entire.

SYN. *Mnium palustre.* *Linn. Sp. Pl.* 1574. *Huds. Fl. An.* 472. *With. Bot. Arr. v.* 3. 85. *Relh. Cant.* 398. *Lightf. Scot.* 708.

M. majus, ramis longioribus bifurcatis. *Raii Syn.* 78. *Dill. Musc.* 233. *t.* 31. *f.* 3.

COMMON in boggy meadows and the moist parts of heaths, producing its fructification in May and June.

Its stems form thick tufts, and they are matted together by a dense brown woolliness which clothes their lower part; they are two or three times branched or forked, thickly clothed with yellowish-green, lanceolate, pointed, entire, waved leaves, with a strong central rib. Male flowers in small flat terminal heads, surrounded by numerous spreading leaves. Capsules on a different plant, oblong or somewhat pear-shaped, oblique, inclined but not pendent, supported by a long wavy stalk, which is yellow above, red below, originating in a pretty large tubercle. Lid conical.

Dillenius describes the male flowers as occasionally naked rising upon little flower-stalks above the leaves, see his *fig. C*; and he figures (No. 4.) a very singular branched plant, composed of such naked heads, growing on axillary branches all the way up the common stem. This was *Mn. ramosum* of Hudson's first edition. These varieties seem to unite the genera of *Bryum* and *Mnium*, and to prove that even the naked male flowers are not a perfectly just criterion of the latter. We are now merely collecting facts, which may hereafter help us, or some more able hand, to a better distribution of these obscure vegetables.

292
1434



*Asplenium
marinum.*

Walt. 1797. Publ. by J. Sowerby. London.

ASPLENIUM marinum.

Sea Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly.

SPEC. CHAR. Frond pinnated. Leaflets ovate, oblique, serrated, obtuse; unequal and wedge-shaped at the base.

SYN. *Asplenium marinum*. *Linn. Sp. Pl.* 1540. *Huds. Fl. An.* 453. *With. Bot. Arr. v.* 3. 53. *Dischs. H. Sicc. fasc.* 7. 17. *Lightf. Scot.* 664. *Chamæfiliæ marina Anglica. Raii Syn.* 119.

GATHERED by Mr. T. F. Forster, jun. on the rocks at Hastings, near the castle, where it was observed in the last century, as well as in some other parts of the south and west coast. Mr. Lightfoot found it in several places on the Scottish coast, and rightly refers to this plant Sibbald's wretched figures, *Scotia illustrata*, tab. 3. f. 1, 2, which have been taken for the *Adiantum trapeziforme* of Linnæus, an American fern, that has no right to a place in the British *Flora*.

Asplenium marinum grows in tufts from clefts of rocks, having a black scaly root, which throws up several lanceolate fronds, very various in degree of luxuriance, and consisting of many firm dark-green leaflets, the lower ones opposite, the rest alternate, and those about the summit confluent and decurrent. The form of these leaflets is ovate, approaching to a lozenge, the nerve dividing them unequally, as in many ferns; their base is entire, and protracted into a wedge shape; the rest of their margin is serrated, sometimes very unequally and deeply. The fructification is arranged in simple oblique lines, whose covering membrane bursts on the side looking towards the main nerve, which is proper to this genus. It may be found in perfection all summer long.



Verbascum.
Blattaria.

Wm. A. Smith del.

VERBASCUM *Blattaria*.

Moth Mullein.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* wheel-shaped, a little irregular.
Caps. with one cell, and two valves.

SPEC. CHAR. Leaves embracing the stem, oblong, smooth, serrated. Flower-stalks single-flowered, solitary.

SYN. *Verbascum Blattaria.* *Linn. Sp. Pl.* 254. *Huds. Fl. An.* 91. *With. Bot. Arr.* 229.
Blattaria lutea. *Raii Syn.* 288.

FOUND by Mr. Jacob Rayer on a bank about 3 miles from Rochester, near the river Medway, in which neighbourhood it is mentioned as growing in Ray's time. We are enabled by means of this wild specimen to remove Dr. Stokes's doubt in the *Bot. Arr.* whether the true *V. Blattaria* be an English plant or not. In gardens it is frequently cultivated, and very ornamental, flowering from July to November, or even later, if the weather be mild.

Root annual, fusiform. Stem 3 or 4 feet high, branched, leafy. Radical leaves slightly pinnatifid; stem-leaves ovate, or oblong, pointed, embracing the stem; all smooth, veiny, unequally or doubly serrated. The upper ones gradually diminish into pointed *bracteæ*, from each of whose bosoms arises a solitary simple slender flower-stalk, bearing one handsome yellow flower, streaked more or less with purple. The calyx is in 5 nearly equal segments. Stamina clothed with purple hairs. Germen globose. Capsule rather oblong. The upper part of the stem, as well as the germen, calyx, *bracteæ* and upper leaves, are clothed with short hairs tipped with a minute globe.

We have been favoured by the Hon. Mrs. F. Howard with a specimen gathered in Norfolk, near Lynn, which is either a variety of this plant with a large purplish flower, or the *V. phæniceum* of Linnæus; we have not yet been able to determine which.



Sedum villosum.

S E D U M villosum.

Hairy Stonecrop.

DECANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5, with five nectariferous scales at the base of the germen. *Capsules* 5.

SPEC. CHAR. Stem erect. Leaves flattish, slightly hairy, as well as the flower-stalks.

SYN. *Sedum villosum.* *Linn. Sp. Pl.* 620. *Huds. Fl. An.* 197. *With. Bot. Arr.* 469.

S. purpureum pratense. *Raii Syn.* 270.

THIS is one of those rare north-country plants which we should have no chance of procuring, but for the kind assistance of our friends. We are indebted for it to the same gentlemen who sent *Bartsia alpina*, see t. 361. *S. villosum* grows in bogs and moist meadows near rivulets in Westmoreland, Durham, and the north-west part of Yorkshire, more frequent in Scotland. Dr. Smith found it near Linlithgow. It is annual, and flowers in June and July.

Root small, fibrous, stem 3 or 4 inches high, bowed at the base, then erect, round, leafy, spotted, smooth. Sometimes a few leafy branches without flowers spring from the base, and sometimes there are a few slender lateral flowering branches, but most commonly the flowers are all in a terminal downy corymbus. Leaves oblong, convex at the back, flat above, often red, sometimes a little rough at the back with viscid-pointed hairs, especially the uppermost. Flowers on slender alternate flower-stalks, clothed (as well as the calyx) with similar hairs. Petals white or rose-coloured, with a red rib, Antheræ red. Capsules brown, rough, tipped with the permanent styles. We have never seen this species cultivated.



S I S O N verticillatum.

*Whorled Honewort.**PENTANDRIA Digynia.*

GEN. CHAR. *Fruit* oval, striated: *Involucra* both general and partial, each of about 4 leaves.

SPEC. CHAR. Leaflets in capillary, whorled segments.

SYN. *Sison verticillatum*. *Linn. Sp. Pl.* 363. *Huds.*

Fl. An. 120. *With. Bot. Arr.* 295. *Lightf. Scot.*

1096. *t.* 35.

A STILL more uncommon plant than the last. Mr. Mackay, nurseryman, near Edinburgh, sent a young root of it from Scotland, which flowered the following year, and from thence our figure was taken. It grows in moist meadows in the lowlands of North Britain, and has also been observed in considerable plenty in the flat parts of Wales. It is perennial, flowering about July and August.

The root consists of oblong fleshy radicles, tapering to a point. Stem 12 or 18 inches high, erect, round, striated, but little branched, and almost naked. Leaves mostly radical and very remarkable, consisting of a simple rib, along which are arranged pairs of deeply cloven leaflets, whose numerous segments are linear, acute, extremely narrow, pointing in all directions, so as to form whorls, and that as truly as the flowers do in the *Menthæ* and other whorled plants, properly so called, for those grow only on two sides of the stem, though they seem to embrace it all round. Umbels erect, of about 8 or 10 rays, with a general involucre of 3 or 4 short ovate pointed leaves. Partial umbels more dense, and nearly flat, with similar, but more numerous, involucra. Petals nearly equal, inflexed, white. Antheræ purplish. Germen ovate, striated. Fruit slightly compressed, deeply furrowed, crowned with the short recurved permanent styles. The seeds are slightly, but not pleasantly, aromatic.

391
757.



Helianthemum caesium.

Aug 1797. Hb. Mus. Soc. de Londres.

CISTUS marifolius.

*Hoary Dwarf Cistus.**POLYANDRIA Monogynia.*

GEN. CHAR. *Cal.* of 5 leaves, 2 of which are smaller than the rest. *Petals* 5. *Caps.* with 3 valves.

SPEC. CHAR. Shrubby, without stipulæ. Leaves opposite, on footstalks, oblong, flat, hoary beneath.

SYN. *Cistus marifolius.* *Linn. Sp. Pl.* 741. *Berk. Outl. ed. 1. v. 2.* 150.

C. hirsutus. *Huds. Fl. An. ed. 1.* 206. *ed. 2.* 232.

C. anglicus. *Linn. Mant.* 245. *With. Bot. Arr.* 557.

C. canus. *Jacq. Fl. Austr. v. 3. t.* 277.

Helianthemum alpinum, folio Pilosellæ minoris Fuchsii. *Raii Syn.* 342.

H. serpilli folio incano, flore minore luteo, inodoro. *Dill. Elth. v. 1.* 177. *t.* 145. *f.* 173.

GROWS on rocks in Westmoreland and Lancashire, but rarely. We received it from Mr. Robson.

The roots are long, woody and perennial. Stems numerous, woody, branched and decumbent at the base, rising to the height of 3 or 4 inches, round, leafy, downy. Leaves opposite, on shortish downy foot-stalks, spreading, flat, entire, more or less elliptical, but very various in length; green above, clothed with depressed bristles; white and very hoary beneath. Stipulæ none. Flowers terminal, each on a long slender flower-stalk, forming a small racemus, drooping at first, erect at the time of expansion. Calyx hairy, with several brown ribs. Petals obovate, entire, slightly waved. Germen ovate, smooth, with 3 or 4 hairy lines. Style curved. The flowers appear in May and June.

From the multiplicity of synonyms above quoted, which we have ascertained from original specimens, it is evident how little this species has been understood. By what chance Dr. Berkenhout discovered it to be the *C. marifolius* of Linnæus, and was thus induced to go counter to the opinion of Hudson, we know not; but he certainly was right, though disregarded by later writers. It is no less surprising that Mr. Hudson should describe this plant as new, when every description and synonym of *C. marifolius* agrees with it. Linnæus in the 2d *Mantissa*, his last and least correct work, admitted Hudson's plant by the name of *anglicus*, and describes the flowers as white, which they very rarely are. Jacquin took the same plant for *C. canus* of Linnæus, a very different species.

247.



Potamogeton densum.



Re. et. Hb. Bot. Soc. P. L. L.

POTAMOGETON densum.

Close-leaved Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves ovate, acuminate, opposite, crowded. Stem forked. Spike of four flowers.

SYN. Potamogeton densum. *Linn. Sp. Pl.* 182. *Huds. Fl. An.* 75. *With. Bot. Arr.* 173. *Relh. Cant.* 72. *Sibth. Ox.* 65.

P. seu Fontinalis media lucens. Raii Syn. 149.

NOT uncommon in ditches, ponds, and slow streams, flowering in the early part of summer.

It is perennial, propagating itself by runners which throw out fibrous roots here and there in the mud, and send up round stems, naked and simple below, forked above, and thickly clothed with numerous pairs of opposite sessile spreading leaves, both rows of which often incline to one side. Each leaf is ovate, lengthened out into a point, ribbed, undulated, entire; we have not found any serratures or prickles on their margin, as some authors describe. Flower-stalks from between the divisions of the stem (the uppermost terminal, till young branches are protruded beyond it), short, round, recurved, bearing a short spike, or rather a little head, of 2^o or 4 flowers, well compared by Clusius, and by Gerarde after him, to those of *Adoxa*; but it must be observed that Johnson, the professed corrector of Gerarde, has erroneously inserted a figure from Clusius of *P. crispum* under the synonym of *P. densum*. Every part of the flower is green.

301
1025



Aristolochia Clematitis.



verheyden del. et sculp. J. Swamy Lond.

ARISTOLOCHIA Clematidis.

Common Birthwort.

GYNANDRIA Hexandria.

GEN. CHAR. *Stigmas* 6. *Cal.* none. *Corolla* of one tongue-shaped, entire petal. *Capsule* inferior, of 6 cells.

SPEC. CHAR. Leaves heart-shaped. Stem erect. Flowers in axillary clusters.

SYN. *Aristolochia Clematidis.* *Linn. Sp. Pl.* 1364. *Huds. Fl. An.* 394. *With. Bot. Arr.* 1003. ed. 3. 360. *Relh. Cant.* 342. *Sibth. Ox.* 112. *Dicks. Dr. Pl.* 14.

RAY appears to have considered this plant as too doubtful a native to be admitted into his *Synopsis*, but he could not be uninformed of its being found, apparently in a state of nature, in many parts of England. It is generally observed about the ruins of nunneries, as at Godstow Oxfordshire, and Carrow Abbey near Norwich, from which last place our specimen was sent by the Rev. Mr. Sutton. The several kinds of *Aristolochia* were formerly a principal remedy for some female disorders.

The root of this species is long, slender, creeping, and perennial. Stems many, nearly 2 feet high, erect, round, striated, smooth, a little zigzag. Leaves alternate, on footstalks, without stipulæ, heart-shaped, entire, smooth, broad, with many strong veins, the lateral nerves branching in a pedate manner. Flowers 5 or 6 in a cluster from the bosom of each leaf, on shortish stalks, erect, pale yellow, appearing from July to September, of a very singular form, consisting of one petal globose at the base with 6 furrows, then funnel-shaped and terminating in a tongue-like figure. In the bottom of this petal stand the stamina and styles, forming a globular body all together, but the germen is below the corolla. The very short thick stamina do really grow out of the style (which is likewise short and thick), so that this genus is truly *gynandrous*, and we see no reason for abolishing that class merely because some plants have been erroneously referred to it. The style appears to us simple, with 6 stigmas, so that we have ventured in that respect to alter the Linnæan character. Like other vegetables that increase much by root, it rarely ripens its fruit.



*Pedicularis
palustris*



May 1. 1797 Published by J. Smeeby London

PEDICULARIS palustris.

*Marsh Lousewort.**DIDYNAMIA Angiospermia.*

GEN. CHAR. *Cal.* (mostly) with 5 clefts. *Caps.* pointed, oblique, with 2 cells. *Seeds* few, angular, pointed.

SPEC. CHAR. Stem solitary, branched. Calyx ovate, hairy, ribbed, in two notched divisions.

SYN. *Pedicularis palustris*. *Linn. Sp. Pl.* 845. *Huds. Fl. An.* 270. *With. Bot. Arr.* 643. *Relh. Cant.* 241. *Sibth. Ox.* 193.

P. palustris rubra elatior. *Raii Syn.* *284.

By no means unfrequent in boggy meadows, flowering in June and July. We believe it to be, as most authors assert, perennial; though both this and the following are marked as annuals in Ray's Synopsis.

Root small. Stem solitary, erect, 12 to 15 inches high, angular, consisting of one principal branch and many smaller spreading lateral ones, which spring irregularly from the bottom to the top. The angles are hairy. Leaves scattered, here and there opposite, bipinnatifid and notched; the segments obtuse, varying much in breadth, their margins often recurved. Flowers axillary, solitary, on short flower-stalks, purple, very handsome. Calyx inflated, ovate, ribbed, hairy, its margin divided perpendicularly into two leafy lobes, very much cut and notched; but this part can scarcely be said to be 5-lobed, as the Linnæan generic character requires. Corolla ringent; the tube white; upper lip much compressed, vaulted, purple with a deeper stain at the summit, tipped with 2 minute teeth, but scarcely emarginate; lower lip oblique, in 3 large spreading purple lobes, each streaked with a red line, and minutely fringed with white. Stamina inserted into the bottom of the tube. Germen ovate. Style incurved. Stigma simple. Capsule ovate, compressed, when ripe projecting, with its sharp oblique beak, beyond the permanent calyx. Partitions contrary to the valves. Seeds about 5 or 6 in each cell. We have spent a great deal of time to no purpose in looking for the tunic of the seeds, mentioned by Linnæus, and we find Gærtner denies its existence, at the same time describing a minute membranous appendage in *P. verticillata*, which may perhaps have been what Linnæus had seen more conspicuous in other species.

P. palustris is an acrid useless weed, which cattle will not touch.



May 1797. Published by J. B. L. L. L.

Pedicularis sylvatica.

PEDICULARIS sylvatica.

Pasture Lousewort.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* (mostly) with 5 clefts. *Caps.* pointed, oblique, with 2 cells. *Seeds* few, angular, pointed.

SPEC. CHAR. Stems several, spreading, simple. Calyx oblong, angular, smooth, in five unequal notched segments.

SYN. *Pedicularis sylvatica.* *Linn. Sp. Pl.* 845. *Huds. Fl. An.* 271. *With. Bot. Arr.* 644. *Relh. Cant.* 241. *Sibth. Ox.* 194.

P. pratensis rubra vulgaris. *Raii Syn.* *284.

RATHER more frequent with us than the last, inhabiting moist pastures and heaths in hilly situations chiefly, and flowering in June and July. It is remarkable that this is, according to Mr. Davall, extremely rare in Switzerland, where so many magnificent species of *Pedicularis*, total strangers to Britain, abound.

Root perennial, strong and thick. Stems several, about 3 or 4 inches high, the central one erect, the rest procumbent, all angular, the angles slightly hairy. Leaves alternate, bipinnatifid and notched as in the last, but the floral leaves are less compound than the rest. From the crown of the root arises a circle of ovate, undivided, recurved, crenate leaves, not to be found in *P. palustris*. Flowers axillary, solitary, rose-coloured, of a more uniform hue than in the preceding kind, but of an elegant appearance as they peep from the side-branches out of the surrounding short grass. Calyx tubular, but little inflated, smooth, with 4 larger and 4 smaller angles alternately: the margin in 5 segments, 4 of which are notched, the fifth smaller, and opposite to the deepest fissure. Corolla like the preceding, but the lower lip is more equally divided, and not fringed. In the rest of the fructification they nearly agree.

We are obliged for many of these remarks to the Rev. Mr. Baker, F. L. S. of Gloucestershire, a most accurate and candid botanist, whose communications have often enriched this publication.



Arundo Phragmites.

ARUNDO Phragmites.

*Common Reed,**TRIANDRIA Digynia.*

GEN. CHAR. *Cal.* of 2 valves. *Florets* surrounded with long down.

SPEC. CHAR. *Calyx* containing five florets. *Panicle* loose.

SYN. *Arundo Phragmites.* *Linn. Sp. Pl.* 120. *Huds. Fl. An.* 53. *With. Bot. Arr.* 116. *Relh. Cant.* 51. *Sibth. Ox.* 50.

A. vallatoria. *Raii Syn.* 401.

NOTHING can be more common than the reed here represented, in ditches, ponds, and the margins of rivers, where it flowers in the middle of summer, after which its waving silvery plumes, consisting of long down remaining in the brown husks of the calyx, continue to ornament many a dreary fen throughout the autumn, lifting their heads high above all other herbage, till their dry stalks are cut for thatching or some such use. They are for no purpose more useful, than to make warm sheltered enclosures for a kitchen garden.

The roots are perennial, running far into the mud. Straws annual, about 6 feet high, erect, round, jointed, very smooth, leafy. Leaves alternate, long, lanceolate, tapering to a fine point, striated, smoother and paler beneath, their edges a little rough; their bases sheathing the straw and each other, and crowned with an extremely short jagged stipula, accompanied on each side by a small portion of silky down. Panicle nearly erect when in flower, purplish, but after impregnation its branches become more loose and drooping. The calyx-valves are unequal, containing about five flowers (sometimes fewer) placed in two ranks upon a small stalk. Corolla of two valves, one of them very long and pointed, to the base of which is attached externally a tuft of long soft slender hairs, which are lengthened after flowering, and, spreading in every direction, give the feathery appearance above mentioned. The stamina are very slender. Styles reflexed, with thick tufted stigmas.



Hordeum jubatum L.

ARUNDO epigejos.

Wood Reed.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Florets* surrounded with long down.

SPEC. CHAR. Calyx single-flowered, longer than the corolla. Panicle erect; branches spreading. Flowers crowded, leaning one way. Leaves lanceolate.

SYN. *Arundo epigejos.* *Linn. Sp. Pl.* 120.

A. Calamagrostis. *Huds. Fl. An.* 54. *With. Bot. Arr.* 117. *Relh. Cant.* 52. *Lightf. Scot.* 106.

Gramen arundinaceum, panicula molli spadicea, majus: Raii Syn. 401. *Scheuchz. Prod. tab.* 5.

OUR specimens were gathered last July in ditches near Kennington. This species grows in wet thickets and the swampy parts of woods, not, like the preceding, in fens, nor is it near so common as that. It is very rarely found in Scotland, but we are certain of its being what Mr. Lightfoot intended, though he quotes *Flo. Dan. t.* 280, which is the true *Calamagrostis*. Linnæus having misquoted Scheuchzer under both these species, seems to have led Mr. Hudson, and from him all other British writers, to mistake both, though they have in some measure corrected the synonyms. The Herbarium of Linnæus (indeed a careful attention to his writings is sufficient without it) has enabled us to clear up all this confusion, as will further appear when we describe *A. Calamagrostis* in the next plate.

The plant now before us is almost as tall and strong as the Common Reed. The straw upright, leafy, sometimes branched a little at the bottom, though Mr. Hudson remarks the contrary. Leaves broad, tapering to a fine point, somewhat glaucous; edges rough, and sometimes the whole under surface is so, but that appears to be a variable circumstance: Stipula much more considerable than in *A. Phragmites*. Branches of the panicle spreading; divided into dense clusters of flowers leaning one way, well compared by Dr. Stokes to *Dactylis glomerata*. Calyx-valves, as well as the petals, nearly equal. Down shorter than in *A. Phragmites*:



Sept 1797 *Pennisetum setaceum* Pers. & Lamour.

ARUNDO Calamagrostis.

*Small Reed.**TRIANDRÍA Digynia.*

GEN. CHAR. *Cal.* of 2 valves. *Florets* surrounded with long down.

SPEC. CHAR. Calyx single-flowered, longer than the corolla. Panicle erect. Flowers scattered. Leaves linear.

SYN. *Arundo Calamagrostis.* *Linn. Sp. Pl.* 121. *Fl. Dan.* t. 280.

A. epigejos. *Huds. Fl. An.* 54. *With. Bot. Arr.* 117. *Relh. Cant.* 51.

Calamagrostis minor, glumis ruffis et viridibus. Raii Syn. 401.

THIS is a rare plant compared with the preceding, nor has it been found in Scotland at all. It grows in moist woods and hedges, flowering in July. We received specimens from Cambridgeshire, by favour of Rev. Mr. Hemsted, and have others from Norfolk and Lincolnshire.

Roots perennial, as in both the preceding; fibrous, not creeping. Straws several, 3 feet or more in height, round, polished, leafy, much more slender than in the last. Linnæus describes it as branched, and his specimens, undoubtedly the same species with ours, are so. Leaves erect, with long sheathing bases, linear, narrow, not a quarter so broad as those of *A. epigejos*, pointed, not quite smooth beneath, and sometimes a little hairy above. Stipula pointed, sometimes divided. Panicle erect, and its branches but little spreading till the seeds are ripe. Flowers erect, scattered, on capillary flower-stalks, not clustered nor leaning one way. Calyx-valves tapering, nearly equal, longer than those of the corolla, which are unequal and cloven. Down scarcely so long as the calyx.

This is undoubtedly the *A. Calamagrostis* which Linnæus described in both editions of *Sp. Plant.* as appears by authentic specimens; neither can there be any doubt of its being No. 42 of *Flora Lapponica*, though, as he tells us in that work, his original specimens gathered in Lapland were lost by accident in going down a river of that country. The characters above given sufficiently distinguish it from the *Arundo* in the last plate.

404
963.



Geranium
pratense.

Geranium pratense L.

GERANIUM pratense.
Crowfoot-leaved Cranesbill.

MONADELPHIA Decandria.

GEN. CHAR. *Style* 1. *Petals* 5, regular. *Nectary* 5 glands at the base of the longer stamina. *Fruit* beaked, separating into 5 seed-cases, each tipped with a long simple naked awn.

SPEC. CHAR. *Stalks* two-flowered. *Petals* entire. *Leaves* wrinkled, somewhat peltate, 5-lobed, in many acute segments. *Seed-cases* even, hairy.

SYN. *Geranium pratense*. *Linn. Sp. Pl.* 954. *Huds. Fl. An.* 302. *With. Bot. Arr.* 728. ed. 3. 606. *Relh. Cant.* 261. *Sibth. Ox.* 212. *Curt. Lond. fasc.* 4. t. 49.

G. batrachoides. *Raii Syn.* 360.

MEADOWS and pastures, in the hilly parts of England chiefly, are ornamented with the flowers of this fine *Geranium*, from the middle of June till the end of July; it grows also in some places about London, as Battersea, Harrow, &c.

The root is perennial, with long strong fibres. Stems 2 feet or more in height, erect, round, slightly hairy, red and swelled at the base, branched above in a forked manner, with a leaf or two at each subdivision, accompanied by one or two pair of brown lanceolate stipulæ. Leaves in 5, rarely 7, principal very deep divisions, which are also deeply and sharply pinnatifid and cut, wrinkled and downy on both sides; paler beneath. The radical ones on long foot-stalks. Flower-stalks long, two-flowered, with 4 bractæ, like the stipulæ, at their division. Petals large, obovate, veiny, hairy at the base. Stamina all perfect. Seed-cases even, hairy, slightly keeled. Seeds finely dotted.

All solid marks of distinction between this and *G. sylvaticum* (t. 121) fail us, except that the leaves of the latter are much less deeply cut. The termination of the petals is variable in both, but those of *G. sylvaticum* are most inclined to be notched. In appearance the two plants differ considerably.

G. pratense is found occasionally with white or striped petals; but its most curious variety is that with double flowers, discovered by Lady Charlotte Murray in 1793 near Athol House, Scotland, and sent to Lady Banks, with whom it preserves its original appearance. We do not recollect another instance of the kind in this genus.

405.

060



Geranium pyrenaicum.

July 1797. Pallas's Voy. to the North Sea.

GERANIUM pyrenaicum.

Mountain Cranesbill.

MONADELPHIA Decandria.

GEN. CHAR. *Style* 1. *Petals* 5, regular. *Nectary* 5 glands at the base of the longer stamina. *Fruit* beaked, separating into 5 seed-cases, each tipped with a long simple naked awn.

SPEC. CHAR. *Stalks* two-flowered. *Petals* cloven, twice as long as the calyx. *Leaves* kidney-shaped, palmate, cut. *Seed-cases* even, sharply carinated, slightly downy. *Seeds* smooth.

SYN. *Geranium pyrenaicum*. *Linn. Mant.* 97, & 257. *Huds. Fl. An.* 302. *With. Bot. Arr.* 729. *ed.* 3. 601. *Sibth. Ox.* 212. *Curt. Lond. fasc.* 3. *t.* 42. *Lightf. Scot.* 367.

THE English name of this species seems to have been given from too great a regard to its Latin one, which however is very faulty, the plant being by no means peculiar to the Pyrenean mountains or any others, but found in waste ground and the borders of fields in various parts of Europe, common about London, as at Chelsea, Hammersmith, &c. flowering in July. Linnaeus described it from Gerard, supposing he had never seen it, and little suspecting that he had it in his herbarium confounded with *molle*. From that species it differs essentially in the seed-cases being even, not transversely wrinkled, though their keel has a projecting tooth or two on each side. It most agrees with *pusillum* (see our *t.* 385) in its seed-cases, which when young are downy, as in that, but much less so when they come to maturity. We have not found them at all hairy as mentioned in Dr. Withering's 3d edition. The petals twice as long as the calyx, and deeply cloven, distinguish it however from *pusillum*, not to mention the greater size of all its parts, and the perennial root, in which respects it differs from both the above-mentioned and from other neighbouring kinds. The 5 exterior stamina are sometimes abortive. It varies with white flowers. The stems are erect, rising to the height of 2 or 3 feet, with spreading branches.

Mr. Curtis, in his excellent *Flora, fasc.* 2, *t.* 50, has noticed the wrinkled seed-coat of *G. molle*; but it is remarkable he should not mention that mark of distinction when he came to describe the *pyrenaicum*, and was so much puzzled to find a permanent character between them. In fact his "large-flowered *molle* about Chelsea-hospital" is the *pyrenaicum*.



Borckhausia
pectida.

July 18. 1797. Published by J. J. Savory, London.

CREPIS foetida.

*Stinking Hawkweed or Crepis.*SYNGENESIA *Polygamia-æqualis.*

GEN. CHAR. *Receptacle* hispid. *Calyx* surrounded with deciduous scales. *Down* simple, generally on a footstalk.

SPEC. CHAR. Leaves runcinato-pinnatifid, hairy; their footstalks toothed. *Calyx* downy.

SYN. *Crepis foetida.* *Linn. Sp. Pl.* 1133. *Huds. Fl. An.* 339. *With. Bot. Arr.* 852. *ed.* 3. 689. *Relh. Cant.* 296.

Hieracium Castorei odore *Monspeliensium.* *Raii Syn.* 165.

GATHERED at Barton in Norfolk by the Rev. Mr. Hemsted. It always grows on a chalky soil, flowering in June or July, but is not of frequent occurrence.

Root biennial, small. Stems several, branched, spreading (the central one only being erect), round, hairy, leafy. Radical leaves spreading in the form of a star, deeply pinnatifid in a runcinate manner, and toothed, running down into a bordered toothed footstalk: those on the stem sessile; and the uppermost generally undivided. Flowers terminal, solitary, drooping when in the bud, then erect, rather small, yellow. *Calyx* clothed more or less with soft hairy down, not glandular. *Receptacle* (as Leers justly remarks) furnished with short hair, fringing the margins of its little cavities, as Gærtner also, *tab.* 158, has observed it in *C. alpina* and *biennis*, so that we have ventured to alter the generic character from *Receptacle naked to hispid*.—The seed-down is simple, scarcely perceptibly feathered under the highest magnifier, and stands on a footstalk.

Every part of the herb smells like bitter almonds, but much stronger, approaching to opium, or the juice of wild lettuce.



Pimpinella Saxifraga.

July 1. 1797. Published by J. G. Smith, London.

PIMPINELLA saxifraga.

*Common Burnet-Saxifrage.**PENTANDRIA Digynia.*

GEN. CHAR. *Involucra* none. *Fruit* ovato-oblong, ribbed. *Petals* inflexed. *Stigmas* somewhat globular.

SPEC. CHAR. Leaves pinnate: leaflets of the radical ones roundish; those of the uppermost linear.

SYN. *Pimpinella saxifraga*. *Linn. Sp. Pl.* 378. *Huds. Fl. An.* 127. *With. Bot. Arr.* 313. *ed.* 3. 311. *Relh. Cant.* 124. *Sibth. Ox.* 102.

P. saxifraga minor, foliis Sanguisorbæ. *Raii Syn.* 213, n. 2 & 3.

A NATIVE of dry gravelly and calcareous soils, flowering in July and August.

Root perennial, strong and woody, highly aromatic and pungent, to some persons not unpleasant, especially when dry. Stems about a foot high, erect, slender, rigid, round, striated and roughish, varying much in luxuriance, generally branched above. Leaves on long footstalks, pinnated, veiny, roughish and rigid; the leaflets of the first radical ones roundish or ovate, acutely serrated and generally deeply notched, especially the terminal leaflet; the other leaves are composed of decurrent, linear, often falcated, sometimes twice pinnatifid leaflets, those which grow high on the stem being the narrowest and most simple, and their common footstalk more membranous and dilated than in the rest. Umbels drooping when young, destitute of general or partial *involucra*. Flowers small, nearly regular, white, with long stamina. Top of the germen very tumid, and reddish. Styles short. Seeds small.

From repeated observations made on this plant wild in many different places, we entirely agree with Dr. Withering, that all the varieties enumerated in his 3d edition (except *P. orientalis* of Gouan, which we have never seen in England) really constitute but one species. Our figure is taken from a good intermediate wild specimen. The characters of almost all the varieties may be found in it. The botanist will in vain attempt to meet with the exclusive characters of any one of them in many different individuals. Such a kind of variety is like the ghost in Hamlet, or Mrs. Radcliffe's mysterious monk of Paluzzi; we can no sooner say "'tis here," than the next moment "'tis gone."



Pimpinella magna

(Linn.) Scop. in P. Fl. Scand.

PIMPINELLA magna,
Great Burnet-Saxifrage.

PENTANDRIA Digynia.

GEN. CHAR. *Involucra* none. *Fruit* ovato-oblong, ribbed. *Petals* inflexed. *Stigmas* somewhat globular.

SPEC. CHAR. Leaves pinnate; leaflets ovate, the terminal one three-lobed.

SYN. *Pimpinella magna*. *Linn. Mant.* 219. *With. Bot. Arr.* 314. *ed.* 3. 313. *Relh. Cant.* 125. *Sibth. Ox.* 102.

P. major. *Huds. Fl. An.* 127.

P. saxifraga. *Raii Syn.* 213.

THIS species is less common than the preceding, and grows chiefly in woods and hedges in a calcareous soil, flowering in August or later. We received it from Mr. Robson. Dr. Smith observed it under the walls of York.

Root perennial, woody, like that of *P. saxifraga* in flavour, but rather weaker. Stem 2 feet or more in height, round, striated. Leaves on rather shorter footstalks than in the last described, pinnated, but of fewer leaflets (scarcely more than 3 pair), and those larger, ovate, or ovato-lanceolate, the terminal one more or less deeply three-cleft, and all strongly serrated. Sometimes, as it is reported, the upper leaves are deeply pinnatifid, but that is not generally the case. Flowers commonly white, about the size of the last, and like them in structure; but in alpine situations they often become rose-coloured.

Linnæus originally confounded this with the last, but was afterwards convinced of his mistake; it being very different in habit and size, and essentially distinguished by the form, as well as greater smoothness, of the leaves. Hudson always made them distinct.



HORDEUM pratense.

Meadow Barley.

TRIANDRIA Digynia.

GEN. CHAR. *Calyx* lateral, of 2 valves, containing a single flower, and growing 3 together.

SPEC. CHAR. Lateral flowers abortive, aristated. *Calyx*-valves bristle-shaped, rough.

SYN. *Hordeum pratense*. *Huds. Fl. An.* 56. *With. Bot. Arr.* 126. *Relh. Cant.* 54. *Sibth. Ox.* 51. *Mart. Fl. Rust. t.* 108.

H. nodosum. *Linn. Sp. Pl.* 126.

H. murinum β. *ibid.*

Gramen secalinum. *Ger. em.* 29.* *Raii Syn.* 392.

A VERY common grass in meadows and pastures that are a little moist, as in the north part of Hyde Park, flowering in June.

Root perennial, fibrous, but often becoming knotty in a situation whose degree of moisture is fluctuating, as happens also to *Phleum pratense*. Straw 18 inches or 2 feet high, erect, slender, smooth, bearing 3 or 4 leaves, but none near the top. Leaves narrow, pointed, roughish, often hairy on the upper side, having a long sheathing striated base, brown and contracted at its summit, and sometimes crowned with a minute stipula. Spike terminal, erect, thick-set with 2 ranks of the ternate flowers. In every cluster of these the middle flower is sessile, and has the parts of fructification perfect; the two lateral ones are elevated on footstalks, and have none, or only barren, organs of fructification; but the glumes of the corolla, as well as the calyx, are bearded in all. The inner valve of the central flower is much shorter than the other.

This grass has some resemblance to the still more common *H. murinum*, but is much more tall and slender, and differs also in the structure of its flowers. *Vaillant, tab.* 17. *f.* 6. is certainly our *pratense*, as quoted by Dr. Withering, and we have ascertained ours to be the *nodosum* of Linnæus by his herbarium, though he has misquoted Ray, and described the lateral flowers as wanting *aristæ*; but that he has corrected in his manuscripts.

410.
845.



Marrubium vulgare.

1797. *Botan. Syst. II. P. 1. 1. 1. 1. 1.*

MARRUBIUM vulgare.

*White Horehound.**DIDYNAMIA Gymnospermia.*

GEN. CHAR. *Calyx* salver-shaped, rigid, with 10 furrows. Upper lip of the *corolla* cloven, linear, straight.

SPEC. CHAR. Teeth of the calyx ten, bristle-shaped, hooked.

SYN. *Marrubium vulgare.* Linn. *Sp. Pl.* 816. Huds. *Fl. An.* 261. With. *Bot. Arr.* 617. ed. 3. v. 3. 533. Relh. *Cant.* 232. Sibth. *Ox.* 187. Woodv. *Med. Bot.* t. 97.

M. album. Raii *Syn.* 239.

FREQUENT on waste ground among rubbish, particularly in very dry situations, where it flowers copiously during the latter part of summer, even though frequently covered with the dust of high-roads, and exposed to the most burning sun. From the last it is protected, like a great many Cretan and African plants, by a thick fine coat of woolly hoariness, enveloping all the green parts of the herb. This kind of clothing seems intended by nature rather as a protection from heat than cold; and yet it is difficult to account for its being found most abundantly on the *under* sides of some leaves, while the *upper*, exposed to the sun, are naked.

The root is perennial, and woody. Stems several, branching from the bottom, and altogether forming a round bush; in the upper part they are simple, square, bearing several pairs of roundish or ovate, wrinkled, unequally serrated leaves, on shortish footstalks. The flowers grow in thick axillary whorls. Calyx with ten furrows, and as many bristly strong hooked teeth, which attach themselves to the coats of animals. Corolla white, the lower lip in three segments, the side ones small and sharp, the middle one large, inversely heart-shaped and slightly notched.

This plant is aromatic and very bitter. The latter flavour only remains in the extract, which was formerly a scholastic medicine, and is now a popular one, for coughs and asthmas. Most quack medicines are what orthodox practitioners have laid aside, sometimes with reason, sometimes from accident.



Acinos vulgaris.

John Ray Bot. Lib. 2. p. 10. fig. 100.

THYMUS Acinos.

Basil Thyme.

DIDYNAMIA Gymnospermia.

GEN. CHAR. *Calyx* two-lipped, its orifice closed with hairs.

SPEC. CHAR. Flowers on simple flower-stalks, about six in a whorl. Stem ascending, branched. Leaves acute, serrated. *Calyx* gibbous at the base.

SYN. *Thymus Acinos*. Linn. *Sp. Pl.* 826. *Huds. Fl. An.* 263. *With. Bot. Arr.* 624. ed. 3. v. 3. 537. *Relh. Cant.* 235. *Sibth. Ox.* 189. *Curt. Lond. fasc.* 1. t. 43. *Dicks. H. Sicc. fasc.* 11. 8.
Acinos multis. Raii Syn. 238.

FOUND in dry hilly fields, more especially on a chalky soil, common about Dartford and other parts of Kent, and not rare in Norfolk, flowering in July and August.

Root annual, composed of a tuft of small fibres. Stems branched, spreading in every direction, but the upper parts are erect. Leaves on short footstalks, ovate, varying to roundish or oblong, acute, more or less deeply and copiously serrated, veiny, hairy, as indeed is the whole herb. Ray justly observes that the leaves are sometimes quite entire; very frequently they have only a single notch on each side. The upper ones taper very much at the base. Flowers about 6 in a whorl, each on a foot-stalk various in length. *Calyx* swelling at the base on the lower side, deeply furrowed, the prominent ribs fringed with bristly hairs; upper lip erect, in 3 broadish nearly equal segments; lower lip projecting, in 2 narrow sharp ones. The orifice is fringed internally with white hairs, which pointing inwards completely close it when the corolla is fallen, but these hairs are equally evident in *Melissa*. Tube of the corolla dilated upwards; upper lip notched; the lower in three blunt segments, the middle one obcordate, marked at the base with white, and a spot or two of darker purple than the rest of the flower.

This plant is aromatic, though sometimes very slightly so.

The swelling at the base of the calyx, observed by Mr. Curtis, is to be found also in *T. alpinus*, though not so considerable.

412
1113



Carduus tenuiflorus.
Leaves collected by J. G. Smith

CARDUUS tenuiflorus.

Slender-flowered or Welled Thistle.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. Cal. ovate, imbricated with spinous scales.
Receptacle hairy.SPEC. CHAR. Leaves decurrent, pinnatifid, spinous.
Branches straight, winged. Flowers in terminal
clusters, sessile, nearly cylindrical. Scales nearly
erect, tipped with long spines.SYN. Carduus tenuiflorus. Curt. Lond. fasc. 6. t. 55.
Sibth. Ox. 244. With. Bot. Arr. ed. 3. 698.C. acanthoides. Huds. Fl. An. 351. Lightf. Scot.
451. With. Bot. Arr. ed. 2, 871.

C. spinosissimus capitulis minoribus. Raii Syn. 194.

AFTER much controversy among our British botanists concerning this thistle, the herbarium of Linnæus has decided it to be none of those mentioned in his works, though his *pycnocephalus* and *australis* come so very near it, that for sometime we have been inclined to consider all three as varieties of each other. The two last however have fewer scales in their calyx, the stalk less winged, and their flowers (whether sessile or pedunculated) are much fewer together, with less numerous florets also than in the *tenuiflorus*. It is necessary here to remark that the synonyms of *pycnocephalus* in *Sp. Pl.* are both false, Jacquin's *Hort. t. 44.* being the plant Linnæus intended and described; the remark in *Syst. Veg.* "*flosculis sæpius 3 s. 4.*" is an absurd blunder of the editor, for the original ms. has "*fere 10.*" which is true.

We adopt Mr. Curtis's name, which is more apt than any by which this plant has hitherto been called. We cannot pay the same compliment to his *C. polyacanthos*, which is the real *acanthoides* of Linnæus.

The slender-flowered thistle, though not a general plant, is frequent on banks and among rubbish near London, as about Marybone, &c. The root is annual. Stem erect, 3 feet high, branched, winged with broad, sinuated, strongly spinous portions of the decurrent leaves, which are in like manner sinuated and spinous, the radical ones being on short footstalks, somewhat lyrate, and all a little cottony. Flowers terminal, clustered, sessile, erect, pale rose-coloured. Calyx nearly cylindrical; scales with a membranous margin, and strong yellow terminal spine, not woolly, pale in their lower part, green at the tip. Florets from 10 to 15 or more. The calyx is permanent, according to Dr. Goodenough's observation, and not deciduous when the seeds ripen, as in *C. pycnocephalus*.

1776.



Gymnostomum pyriforme.

Fig. 197. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

BRYUM pyriforme.

Pear-shaped Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule with a lid. Veil smooth. Flower-stalk from a terminal tubercle.

SPEC. CHAR. Stem none. Capsules obovate, erect, without ciliæ. Veil awl-shaped. Leaves ovate, spreading, acute, beardless.

SYN. Bryum pyriforme. Linn. Sp. Pl. 1580. Huds. Fl. An. 475. With. Bot. Arr. v. 3. 104. ed. 2. v. 3. 812. Relh. Cant. Suppl. 1. 18. Dicks. H. Sicc. fasc. 4. 22.

Bryum parvum erectis piriformibus majusculis capitulis, foliis Serpilli pellucidis. Raii Syn. 93.

B. serpillifolium pellucidum, capsulis pyriformibus, Dill. Musc. 344. t. 44. f. 6.

Gymnostomum pyriforme. Sibth. Ox. 274.

FREQUENT on heaths, ditch-banks, &c. in moist shady places, bringing its capsules to maturity in the spring for the most part, though, as Dillenius remarks, they may be met with occasionally all the year long.

Root annual. Stem none, except that when the plants are produced early in the year, and grow luxuriant, they throw out lateral shoots of leaves a little elevated on short branches, and these flower later than the parent plant. Leaves several, spreading like a star, ovate, entire, acute, but without any terminal hair or bristle; their colour is a pale pellucid green. Stalk central, very short, bearing a large erect capsule, oval when young, and capped with a whitish awl-shaped veil, which Dillenius describes as being angular like that of *B. hygrometricum*; t. 342, but we have found it cylindrical. In ripening the capsule becomes pear-shaped, or thicker towards the top, and the veil splits and falls off. The cover is conical. The orifice destitute of teeth or ciliæ, which character makes the genus *Gymnostomum* (naked-mouth) of Hedwig, and it is perhaps one of his best defined ones; but for reasons already given, p. 180, we defer adopting any of them till experience has fixed them.



Calicium sphaerocephalum.

July 1737 Published by J. Smith & Co.

LICHEN sphærocephalus.

Black Pin-headed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, yellowish. Tubercles on black footstalks, globose, dark grey, discharging black powder intermixed with fibres.

SYN. Lichen sphærocephalus. *Web. Gott.* 198.*Mucor lichenoides.* *Linn. Sp. Pl.* 1655. *Relh. Cant.* 473. *With. Bot. Arr.* v. 3. 483.*Trichia lichenoides.* *Sibth. Ox.* 406. *With. Bot Arr.* ed. 3. v. 4. 399.*Clathrus cinereus.* *Huds. Fl. An.* 631.*Coralloides fungiforme arboreum nigrum, vix crustosum.* *Dill. Musc.* 78. t. 14. f. 3.

IN the clefts of the bark of old oaks this little plant may be found at almost all seasons, but is most conspicuous after rain.

Crust leprous, very thin and much dispersed, of a yellowish or greenish colour, and probably overlooked as *Byssus candelaris* by most writers, who have described as a fungus what are the genuine tubercles of this *Lichen*, and which rise from the crust on slender black erect stalks, seldom one line in height, themselves being smaller than wild-poppy seed, globular, grey or blackish, generally solitary, but we have found 2, and Haller 3, on one stalk. In due time these tubercles burst at the summit, and throw out black powdery seeds mixed with fibres, in which respect this species agrees with *Lichen fragilis* and *globiferus* already figured in the 2d volume of the present work.

Lichen sphærocephalus was first so named by Weber, who considers it as *Mucor sphærocephalus* as well as *M. lichenoides* of Linnæus. Dillenius knew it well, and has justly arranged it near our *Lichen byssoides*, t. 373, to which it is in many respects allied. In writing our account of the latter we were not aware of the *Lichen* now before us being placed by Mr. Hudson in his very incorrect genus of *Clathrus*.



July 1799 Published by J. Savory, London.

SALICORNIA annua.

Annual Samphire, or Jointed Glasswort.

MONANDRIA Monogynia.

GEN. CHAR. *Calyx* inflated, undivided. *Petals* none.
Stamina one or two. *Seed* one, enclosed in the
Calyx.

SPEC. CHAR. Joints compressed, notched; interstices
obconical. Branches opposite. Spikes cylindrical.

SYN. *Salicornia annua*. *Smith Fl. Brit. in ed. 1.*
Bast. Opusc. v. 2. 105. t. 10.

S. europæa α. *Huds. Fl. An. 1.*

S. herbacea. *Linn. Sp. Pl. 5. With. Bot. Arr.*
3. ed. 3. v. 2. 4. Relh. Cant. Suppl. 2. 1.

Salicornia. *Ratii Syn. 136.*

ON sea-shores in places overflowed by the tide, more especially on a muddy soil, plentiful, flowering in August or later; the ground it covers often appears at a distance clothed with a most beautiful turf intersected by rivulets but on a near approach it proves a dreary inaccessible salt marsh, where scarcely any thing but this plant will thrive.

Root small, annual. Stem erect, sometimes curved and inclining in the lower part, from whence also, if luxuriant, it generally throws out two large compound branches; the others are mostly simple, opposite, each pair crossing the next, and all pointing upwards. The bark is of a very succulent substance; the woody part strong and tough, though slender. The whole herb is of a jointed appearance externally, smooth, destitute of leaves. Joints more or less compressed, notched or hollowed out on each side and their interstices thickened upward. Spikes terminating the stem and branches, and like them in figure, but composed of much shorter joints, just above the pointed part of each of which on either side stand about three sessile clustered flowers. *Calyx* swelling with an abrupt entire border. Stamen we have always found solitary with an incumbent anthera. Germen ovate with a three-cleft sessile stigma. Seed solitary, imbedded in the pulpy calyx.

What we have described is only the first variety of Hudson; the others we hope to illustrate on some future occasion, believing them specifically distinct from this.

This herb is much eaten as a pickle, but has little flavour of its own; in which respect it differs from the highly aromatic true Samphire, *Crithmum maritimum*.



Stachys sylvatica.

Sept. 1737. Collected by P. Savi. by L. de la.

STACHYS *sylvatica*.*Hedge Woundwort.*DIDYNAMIA *Gymnospermia*.

GEN. CHAR. Upper-lip of the corolla vaulted; lower-lip reflexed at the sides, the large middle segment notched. *Stamina* after shedding their pollen divaricated.

SPEC. CHAR. Six flowers in a whorl. Leaves heart-shaped, on footstalks.

SYN. *Stachys sylvatica*. *Linn. Sp. Pl.* 811. *Huds. Fl. An.* 259. *Wilh. Bot. Arr.* 612 *cd.* 3. v. 3. 531. *Reith. Cant.* 229. *Sibth. Ox.* 186. *Curt. Lond. fusc.* 3. t. 34.

Galeopsis legitima *Dioscoridis. Rati Syn.* 237.

FREQUENT under hedges and in other shady places, flowering in July and August. The name of *sylvatica*, which seems to have originated with Rivinus, is not well applied to this species; *nemorosa* would more accurately express its general situation.

Root perennial, creeping, but not very extensively. Stems 2 feet high, erect, but little branched, square, hairy, leafy. Leaves on footstalks, heart-shaped, acute, strongly serrated, rough, thin and pliable when handled, of a deep dull green; the upper ones on shorter footstalks, and gradually diminishing to lanceolate entire bractæ. Spike erect, terminal, consisting of many close whorls of 6 flowers each. Calyx brownish, with 5 large sharp teeth. Flowers of a deep dull blood-colour, prettily marbled about the orifice with a darker hue intermixed with white. Their tube is cylindrical, with a small pouch on the under side near the base, similar to what may be observed in some species of *Origanum*.

This herb has a pungent foetid smell when rubbed, approaching to that of Black Horehound. It is one of those that powerfully affect the nerves, and may therefore prove no contemptible stimulant if judiciously used. Haller refers it to his genus of *Cardiaca*, the limits of which are not well defined.



Erythraea Centaureum

Top. 1797 Piche - May 1st June 1807

CHIRONIA Centaurium.

*Common Centaury.**PENTANDRIA Monogynia.*

GEN. CHAR. *Corolla* salver-shaped. *Stamina* inserted into the tube. *Antheræ* becoming spiral. *Style* declining. *Seed-vessel* of two inflexed valves.

SPEC. CHAR. Stem herbaceous, dichotomously panicled. Leaves ovato-lanceolate. Calyx shorter than the tube.

SYN. *Chironia Centaurium*. *Curt. Lond. fasc. 4. t. 22.*
With. Bot. Arr. ed. 3. v. 2. 255. Sibth. Ox. 75.
Woodv. Med. Bot. t. 157.

Gentiana Centaurium. *Lin. Sp. Pl. 332. Huds.*
Fl. An. 102. Relh. Cant. 100. Dicks. H. Sicc.
fasc. 7. 3.

Centaurium minus. *Raii Syn. 286.*

A FREQUENT inhabitant of dry gravelly or chalky pastures, scarcely to be cultivated in a manured soil, flowering in the latter part of summer; its blossoms close as soon as gathered, and against rain.

Root small, branching, annual. Stem solitary, erect, about a foot high, with 4 sharp edges, leafy, terminating in several opposite, forked, flowering-branches, which altogether form an upright panicle. Leaves opposite, sessile, entire, 3-nerved, the radical ones somewhat spatulate, the rest lanceolate or elliptical. Each flower is sessile, erect, with a greenish tube, and beautiful pink-coloured polished limb. Segments of the calyx narrow and sharp, about half as long as the tube, to which they adhere. *Antheræ* incumbent, twisting into a spiral form as they ripen, which is essential to a true *Chironia*, though not observable in all that *Linæus* has called so; see *Icones pictæ plant. rar. tab. 18.* The style is declining; stigma capitate, with a transverse notch. The whole herb is smooth, very bitter, well known among rustic practitioners as a stomachic by the name of Lesser Centaury.

Mr. Curtis first referred this plant to its right genus, but neglected to give it a specific character, the definition for which Dr. Sibthorp quotes him having been given by *Linæus*, and intended to distinguish it from other species of *Gentiana*, not of *Chironia*. Botanists are often strangely incorrect about essential characters. They indeed require genius and accuracy, but they are the perfection of the art. Dr. Stokes has made several excellent remarks on this plant in the 2d edition of *Withering*



Potamogeton compressum

1797 Potamogeton P. J. Sowerby del. 1797

POTAMOGETON compressum.

Flat-stalked Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. Cal. none. Petals 4. Style none
Seeds 4.

SPEC. CHAR. Leaves linear, obtuse. Stem compressed.

SYN. Potamogeton compressum. Linn. Sp. Pl. 183.

Huds. Fl. An. 75. With. Bot. Arr. ed. 3. v. 2.

213. * Relh. Cant. 72.

P. caule compresso, folio Graminis canini. Raii
Syn. 149.

IN the difficult genus of *Potamogeton* we find it necessary to proceed with the utmost caution, publishing a species now and then as (we presume at least) we clearly understand it. That this is the true original *compressum* of Linnaeus, as well as of all British writers, we learn from the Clifortian Herbarium in Sir Joseph Banks's possession, that being in the present case the original authority, Linnaeus having afterwards confounded with this a very different plant, which by no means answers to the character.

Potamogeton compressum is not very uncommon in ditches and slow streams about London, and other parts of Great Britain, flowering in June and July, when its small spikes of about 4 or more brownish green flowers just emerge from the water. It has most affinity with *P. pusillum*, see our Vol. 3, t. 215, but is twice as large in all its parts, and essentially distinguished by its compressed stem; neither do the leaves spread so immediately from the base as in that species. The root is perennial. Stem zigzag, alternately branched, very much compressed all the way up. Leaves generally alternate, but the uppermost often opposite, all exactly linear, obtuse, with a strong central nerve, and 2 fine lateral ones on each side. Stipulae intrafoliaceous, one to each leaf, embracing the stem; the lower ones generally acute and lacerated, the upper ones more obtuse and entire. Flower-stalk short, solitary, terminal till the stem grows above it.



Adiantum
akumassae



U L V A atomaria.
Concentric-dotted Laver.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. *Fronde* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Frond membranous, flat, dilated, palmate; its segments linear, slightly branched, and sometimes fringed.

SYN. *Ulva atomaria.* Woodward in *Tr. of Linn. Soc.* v. 3. 53.

MR. Woodward has first published a description of this elegant sea-weed in the transactions of the Linnæan Society, but without a figure; and it is by his kind permission we are enabled to give a representation of it and the following, from his own specimens.

Mr. Lily Wigg, a most ingenious and accurate observer of nature, discovered this new species on the Yarmouth coast, washed up by the tide; nor do we know of its having been found any where else.

It seems to have been attached to the ground or rocks by a small dilated downy base, immediately above which the frond dilates into a wedge or fan shape, various in breadth, divided in a palmate manner (not down to the base) into various unequal linear, frequently branched, segments, terminating bluntly; sometimes entire and naked at the margin, sometimes fringed with minute teeth pointing upwards. The whole substance is thin and membranaceous, of an olive brown. The seeds are of a darker colour, very minute, and disposed somewhat irregularly in numerous transverse concentric lines or stripes, which give the plant a beautiful appearance.



Halysma squilata

U L V A ligulata.
Lacinated Red Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fron*d membranous or gelatinous.
Seeds solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. *Fron*d membranous, flat, branched :
 branches dilated, somewhat forked, with obtuse angles ; terminated and fringed with strap-shaped segments.

SYN. *Ulva ligulata*. Woodward in *Tr. of Linn. Soc.*
 v. 3. 54.

FOUND by Mr. Wigg on Yarmouth beach, cast up with the *Ulva atomaria*; but Mr. Woodward has since discovered it in a growing state on the rocks at Cromer.

The root is a small tubercle. Fronds clustered, each of them 5 or 6 inches high, dilated from a very slender base into a wedge-shaped figure, deeply cut into several unequal subdivided segments; the sinuses or *axillæ* of all the segments are obtuse, or rounded more or less. The ultimate divisions are linear, and somewhat acute, and the lower part of the frond principally is sometimes fringed with processes or leaves of a similar figure, various in size. The substance of the whole is membranous, varying in thickness, semipellucid, of a brightish red ; the margin entire and smooth. Seeds very minute, scattered separately throughout the substance of the frond.

Mr. Woodward suspects this *Ulva* may have been confounded with some varieties of *Fucus ciliatus*, and, we may add, of *Fucus palmatus*, but its dispersed seeds make it an *Ulva*.

42
1886



Orobanché major



OROBANCHE major.

*Greater Broom-rape.**DIDYNAMIA Angiospermia.*

GEN. CHAR. *Cal.* in 2, lobed, lateral segments. *Cor.* ringent. *Caps.* of 1 cell, with 2 valves, and many seeds. A gland at the base of the germen beneath.

SPEC. CHAR. Stem simple. Corolla inflated; its upper lip undivided; lower in three equal segments. Stamina smooth. Style downy.

SYN. *Orobanche major.* *Linn. Sp. Pl.* 882. *Huds. Fl. An.* 265. *With. Bot. Ar. ed.* 3. 557. *Relh. Cant.* 237. *Sibth. Ox.* 191. *Curt. Lond. fasc.* 4. t. 44. *O. major* *Garyophyllum olens.* *Ratib. Syn.* 288*.

FOUND not unfrequently on shrubby hills over-run with broom and furze, on the roots of which it grows parasitically flowering in June or July.

The stem is simple, erect, straight, angular, downy, very juicy, clothed with scattered, upright, lanceolate, leafy scales; its base swelling into a bulbous form, which is still more scaly, and throws out several radicles, by which the plant is attached to, and nourished from, the shrub on which it grows, and it is to all appearance perennial. Flowers sessile, in a terminal, rather close-set, upright spike, the whole being of a dull purplish yellow hue, clothed with rusty downiness, and soon turning altogether brown and withered, in which state the plant remains a considerable time. Bractæ solitary, lanceolate, mostly shorter than the flowers. Calyx of 2 lateral leaves, each of which is deeply cloven into 2 nearly equal, lanceolate, acute segments. Corolla ventricose or inflated, a little incurved, carinated at the back; its upper lip perfectly undivided, with a reflected waved margin; the lower lip in 3 dependent lobes, which are equal, acute, more or less undulated, and sometimes almost crenate. Stamina rather shorter than the tube, channelled at their base on the inside, and perfectly smooth, or void of all pubescence, in their lower part, though a little glandular just under the antheræ. Style downy. Stigma of two yellow separate globules.

We are now persuaded that the foreign *Orobanche* distinguished by Bauhin as smelling of cloves, which ours does not, is a distinct species, its stamina being very hairy at the base, which in this genus seems an important mark. See *Sketch of a Tour on the Continent*, v. ii. 308.

422
887.



Orobanchaceae minor

O R O B A N C H E minor.
Lesser Broom-rape.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* in 2, lobed, lateral segments. *Cor.* ringent. *Caps.* of 1 cell with 2 valves and many seeds. A gland at the base of the germen beneath.

SPEC. CHAR. Stem simple, Corolla tubular; its upper lip undivided; lower in three curled segments, of which the middle one is lobed. Stamina ciliated. Style smooth.

SYN. *Orobanche ramosa* β. *Huds. Fl. An.* 266.

O. flore minore. Raii Syn. 288 *.

THIS plant is found very copiously on various parts of Norfolk, on fields of clover for the most part, to the roots of which it seems to be attached, flowering in July. We have for above 15 years past considered it as a distinct species from *O. major*, as it unquestionably is from *ramosa*; and the genus having of late been more studied and better understood, several respectable Botanists have assented to our opinion, particularly the Rev. Mr. Sutton of Norwich, who has paid considerable attention to it, and who favoured us with this specimen last year from near Sheringham.

It is much smaller in all its parts than the last, and more purplish (though sometimes found entirely of a pale yellow by Mr. Sutton,) and the stem is more inclined to be zigzag. Bractæ solitary. Flowers tubular, scarcely at all ventricose. Calyx-leaves more unequally divided, though that mark is not absolutely invariable. Upper lip of the Corolla undivided, at least till it splits by age or violence; lower in lip in three segments, which are more obtuse and undulated than in *O. major*, the middle one being larger than the rest and more or less perfectly three-lobed. The most important and permanent character, however, consists in the stamina being in their lower part thickly ciliated with projecting hairs, which we have never found to vary, while the style on the contrary is smooth. Stigma purple.

We think there can be no doubt that our *O. minor* is the *O. flore minore* of Dillenius, in Ray's Synopsis, as above quoted, found by Mr. Rand in Kent. Our late worthy friend, Mr. Jacob Rayer, observed it plentifully in that county. It seems to be the plant intended under the same denomination by John Bauhin, but we have some doubt of its being the *Orobanche prima* of *Tabernæ-montanus*.

123
1889.



Orobanchaceae carnulosa.

OROBANCHE cœrulea.
Purple Broom-rape.

DIDYNAMIA Angiospermia.

GEN. CHAR. Cal. in 2, lobed, lateral segments. Cor. ringent. Caps. of 1 cell, with 2 valves, and many seeds. A gland at the base of the germen beneath.

SPEC. CHAR. Stem simple. Corolla tubular; its upper lip cloven and notched; lower in three equal entire segments. Stamina smooth. Bractææ three.

SYN. *Orobanche cœrulea*. Villars Dauph. v. 2. 406.

O. lævis. Lamarck Flo. Franc. v. 2. 327.

O. purpurea. Jacq. Aust. t. 276.

O. n. 294. Hall. Hist. v. 1. 129.

O. ramosa β. With. Bot. Arr. ed. 3. 558.

NO species of *Orobanche* has been less understood than this. We have reason to think it has been taken by many British Botanists for the *ramosa*. Linnæus confounded its synonyms with those of some other very different plants under his *O. lævis*, the history of which we may one day give in another place; but the species before us, which Linnæus did not know, can by no means be taken for his *lævis*, though Haller, Lamarck, and Villars guessed it to be so. Jacquin has described it anew by the name of *purpurea*, but there is another species so named in the *Suppl. Plant.* Ours might far more properly be named *violacea*, but to avoid unnecessary changes we call it *cœrulea* with Villars. It grows in hilly pastures on the north coast of Norfolk, flowering in July. A single specimen was found in 1779 by a Mr. Scarles near Northreps, and several more last year near Sheringham by Mr. W. Skrimshire of Wisbeach; ours was gathered by the Rev. Mr. Sutton at Beeston, near Cromer.

This is in general more slender and less pubescent than either of the preceding, and of a darker and much more blue or purplish colour. Its flowers also are longer. The bractææ are three, one large external and two small internal ones, as we ought also to have described them in *O. ramosa*, t. 184. Calyx tubular at the base, the lobes of its segments nearly equal, subulate. Corolla palish violet, with an elevated downy white divided palate. Upper lip ascending, more or less deeply two-lobed, with a notch or two between the segments; lower lip of three equal ovate entire lobes, by no means fringed, undulated or plaited. Stamina smooth all the way up. Style a little downy.

— *Orobanche ramosa* differs essentially from this species in being almost always very much branched in the upper part of its stem, which is yellow, not purple, and in having its upper lip deeply lobed, without any teeth or notches between. In appearance also there is a manifest difference.



Bellis perennis.

Cox's meadow Pansy. Bellis perennis.

BELLIS perennis.

*Common Daisy.*SYNGENESIA. *Polygamia-superflua.*

GEN. CHAR. *Receptacle* naked, conical. *Down* none.
Cal. hemispherical; its scales equal. *Seeds* obovate.

SPEC. CHAR. *Root* creeping. *Stalk* naked.

SYN. *Bellis perennis.* Linn. *Sp. Pl.* 1248. *Huds. Fl.*
An. 370. *With. Bot. Arr. ed.* 3. 733. *Relh.*
Cant. 320. *Sibth. Ox.* 256. *Curt. Lond. fasc.* 1.
t. 62.

B. sylvestris minor. *Raii. Syn.* 184.

FEW plants are better known than the daisy. Every pasture and grass-plot is bespangled with its flowers from the beginning of spring till the end of autumn; and if any mild weather happens to break the severity of winter, the daisy is sure to welcome the appearance of the sun, and expand itself to his beams. At night it always closes, and hence its English name, day's-eye or eye of the day. See the apt quotations from Chaucer in the *Flora Londinensis*, where also we are informed that this common plant is not eaten by sheep or horses, nor willingly by cows.

The root is strong, perennial, branched and creeping, throwing out long straight fibres, and producing at its crownveral tufts of leaves spreading in a star-like form upon the ground, which are obovate, blunt, crenate, slightly hairy, and all mostly radical, one or two of them only being very rarely borne upon the bases of the stalks in a luxuriant state. Stalks generally upright, single-flowered, round, hairy, naked. Flowers various in size, inodorous. Calyx dark green, hairy, spreading. Radius of several spreading linear or somewhat elliptical female florets, with a notch at the tips, of a polished white, mostly tinged with beautiful crimson at the extremity, especially underneath. Disk of many tubular yellow hermaphrodite florets. Receptacle very conical, and hollow, dotted, without scales or hairs. Seeds obovate, compressed, without any wing or down. Stigma cloven; that of the hermaphrodite florets thicker than in the others.

In gardens the daisy is cultivated with double flowers, that is, composed entirely of the ligulate female florets, and either white, red, or speckled. Sometimes the calyx is prolificous at its base, when it is called the hen-and-chicken daisy.

HIPPOPHAE rhamnoides.

*Sallow-thorn, or Sea Buck-thorn.**DIOECIA Tetrandria.*

GEN. CHAR. Male, *Calyx* in 2 deep segments. *Corolla* none. Female, *Cal.* tubular, cloven. *Style* 1. *Berry* superior. *Seed* solitary, doubly coated.

SPEC. CHAR. Leaves lanceolate.

SYN. *Hippophae rhamnoides*. *Linn. Sp. Pl.* 1452. *Huds. Fl. An.* 431. *With. Bot. Arr.* 1114. *ed. 3. v. 2.* 204. *Villars Dauph. v. 2.* 338.

Rhamnoides fructifera, foliis salicis, baccis leviter flavescentibus. *Rati Syn.* 445.

THIS shrub is found in various parts of England, on the sandy sea coast, chiefly upon cliffs or banks above the level of the ocean, flowering about the middle of May, and ripening its beautiful glowing berries in the autumn. Though the plant is often preserved in shrubberies, for the sake of its silvery leaves, it is never observed to bear fruit but in a wild state, which may perhaps be partly owing to its being dioecious, and the two sexes not happening to be cultivated together. Our specimens, in a very perfect state, were sent from Yarmouth by Mr. Wigg and Mr. Dawson Turner.

The wood is hard, and the branches of the preceding year terminate in stiff thorns. Leaves scattered, lanceolate, obtuse, entire, sometimes almost linear, of a silvery white beneath like the back of a looking-glass; both their surfaces, as well as the young bark and the fruit, are clothed with minute umbilicated scales, as in the genus *Eleagnus*. Flowers green, solitary in the bosoms of the lowermost leaves while they are very young, the males on one shrub, females on another, but both situated (as far as we have observed) in the same manner; they differ however in shape. The calyx of the male is divided almost to the base into 2 equal roundish lobes, closed together at their summit, but a little gaping below; stamina 4, very short, with large oblong antheræ. The female has an oblong tubular calyx slightly cloven at the top, containing a single germen, with a short thick recurved style. Berry somewhat elliptical, yellow or orange-coloured, very juicy, acid and astringent, containing in its centre an oblong shining black seed, with a furrow on each side, invested with a double membranous coat, first detected we believe by Mr. Sowerby, Gærtner describing only a single one. The berries are used as an acid sauce by the poorer people of Sweden and the South of France.

526
1696



Dicranum
trachelium

Herbar. Musci. 1796

HYPNUM taxifolium.

Yew-leaved Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. with a lid. Veil smooth. Flower-stalk from a lateral tubercle invested with scales.

SPEC. CHAR. Frond perfectly simple, pinnate, lanceolate. Flower-stalks from the base.

SYN. Hypnum taxifolium. Linn. Sp. Pl. 1587.
Huds. Fl. An. 493. With. Bot. Arr. ed. 3. 845.
Relh. Cant. 407.

H. repens filicifolium non ramosum, pediculis brevioribus ad radicem egredientibus. Raii, Syn. 88.

H. taxiforme minus, basi capsulifera. Dill. Musc. 263. t. 34. f. 2.

Dicranum taxifolium. Sibth. Ox. 279.

FOUND with *H. adiantoides* (t. 264) in a shady pit, in Kensington Gardens, towards Bayswater Gate, where it produces its capsules in February, nor is it uncommon elsewhere in similar situations.

The fronds form small tufts, each of them being scarcely half an inch long, unbranched, flat, pinnate, composed of two ranks of closely imbricated alternate leaflets, which are compressed, deeply keeled, pointed, entire. From a scaly bud at the base arises a slender red stalk, twice as long as the frond, bearing a nearly cylindrical inclining capsule, the teeth of which are cloven half way down. The lid has a taper beak, as has the veil also. The parts of fructification very much agree with those of *H. adiantoides*, from which this species is however clearly distinguished by its smaller size, simple fronds, and radical stalks.



Humulus lupulus L.

HUMULUS Lupulus.

*Hop.**DIOECIA Pentandria.*GEN. CHAR. Male, *Cal.* 5-leaved. *Cor.* none.Female, *Catkin* of numerous obliquely spreading, undivided scales. *Cor.* none. *Styles* 2. *Seeds* solitary.

SPEC. CHAR.

SYN. *Humulus Lupulus.* *Linn. Sp. Pl.* 1457. *Huds.**Fl. An.* 433. *With. Bot. Arr. ed.* 3. v. 2. 277. *Relb.**Cant.* 369. *Sibth. Ox.* 90.*Lupulus mas et foemina.* *Raii Syn.* 137.

HOPS are found in hedges throughout England, particularly where the soil is strong and moist; nor can there be a doubt of their being indigenous, notwithstanding the old distich,

“Turkeys, Carp, Hops, Pickerel and Beer,
“Came into England all in one year.”

This is supposed to have been in Henry VIIIth's reign, when perhaps they were first used for making beer, and (as has been the case with some other plants) might be imported from abroad, though really wild at home. The Pickerel or Pike, was certainly known and eaten in England in 1281. See Sir John Cullum's History of Hawsted, p. 9. In Scotland the hop, according to Lightfoot, is scarcely indigenous.—Its use and culture are now sufficiently known. Its fragrance and essential properties reside in a (partly volatile) resinous substance, secreted in the scales of the cone. The beauty of its climbing twigs, and vine-like leaves, make it very ornamental to the counties of Kent, Worcestershire, Shropshire, &c. where it is most cultivated. The very young shoots, when boiled, taste like Asparagus, and are more early.

Root perennial. Stems twining, angular, rough with prickles, leafy. Leaves opposite, on footstalks (which are connected at the base on each side by a reflexed stipula), heart-shaped, undivided or 3-lobed, often 5-lobed, serrated, veiny and harsh. The flowers appear in July, the males on one root, in branched clusters; females on another, in simple axillary catkins, of a totally different structure from the male flowers, whose calyx is simple, of 5 leaves, the 5 stamina short, the antheræ opening by 2 pores at the top; whereas the female is an imbricated catkin of numerous simple entire scales, each enveloping a germen with 2 long downy styles, and all together enlarging into a dry strobilus or cone.

The old generic name *Lupulus*, a little wolf, justly displeased Linnæus, though it seems as tolerable as *Ranunculus*, a little frog. *Humulus* is said by Ambrosinus to be of German origin. Linnæus gives a lame derivation of it from *humus*, moist earth, in Phil. Bot. p. 167.



Jan 21. 1796. Published by J. Gowerby London

EUPATORIUM cannabinum.

*Hemp-agrimony.*SYNGENESIA *Polygamia-aqualis.*

GEN. CHAR. *Receptacle* naked. *Seed-down* feathery.
Calyx oblong, imbricated. *Style* cloven half way
 down, longer than the corolla.

SPEC. CHAR. Leaves digitate.

SYN. *Eupatorium cannabinum.* *Linn. Sp. Pl.* 1173.
Hudf. Fl. An. 356. *With. Bot. Arr. ed.* 3, v. 3,
 706. *Relb. Cant.* 309. *Sibth. Ox.* 249. *Raii Syn.* 179.

THIS plant occurs frequently about the banks of rivers, and other watery spots.—It is nevertheless found also in elevated calcareous situations, where it appears to great advantage, as at Matlock; but always grows in a more or less black and boggy soil, like the larger inhabitants of alpine meadows, *Veratrum*, *Gentiana*, *Aconitum*, *Cacalia*, &c. It seems indeed to supply the place of *Cacalia alpina*, in some of our mountainous thickets, and very much agrees with that plant in habit, colour, and the insects it nourishes.

The *Eupatorium* flowers in July and August. The root is perennial. Stems several, 2 or 3 feet high, erect, branched, roundish, downy, leafy. Leaves opposite, nearly sessile, deeply divided into 3 or 5 sessile leaflets, of which the two outermost are sometimes a little remote from the others, by that means forming a pinnate leaf; the leaflets are lanceolate, paler and downy beneath, strongly serrated, especially about the middle. Flowers very numerous, light reddish purple, in a thick terminal clustered corymbus. Calyx-scales blunt, with a membranous white or reddish margin. Florets about 5 or 6, all tubular, equal, regular and perfect, characterized by the projection of their long cloven styles; the silvery bristles which crown the germen (and afterwards the seed), and which are truly though minutely feathery, are seen separating the florets. Germen, as Dr. Withering remarks, sprinkled with minute shining globules. The whole herb is slightly aromatic.

In young plants the upper leaves are observed to be simple. See Ray and Withering.



Barbarea officinalis

TUSSILAGO Farfara.

*Colts-foot.**SYNGENESIA Polygamia-superflua.*

GEN. CHAR. *Receptacle* naked. *Down* simple. *Calyx-scales* equal, as long as the disk, somewhat membranous.

SPEC. CHAR. Stalk single-flowered, clothed with imbricated scales. Leaves heart-shaped, angulated and toothed.

SYN. *Tussilago Farfara*. *Linn. Sp. Pl.* 1214. *Huds. Fl. An.* 364. *With. Bot. Arr.* 904. *ed.* 3. v. 3. 719. *Relb. Cant.* 314. *Sibth. Ox.* 261. *Curt. Lond. fasc.* 2. t. 60.

Tussilago. *Raii Syn.* 173.

COMMON on moist marley and calcareous ground, flowering in March or April, soon after which the leaves appear, and continue through the summer.

Root perennial, creeping horizontally. Stalks erect, simple, leafless, but clothed with lanceolate, imbricated, close-pressed scales. Flowers terminal, solitary, drooping before they expand, then erect, lemon-coloured, not inelegant, being more conspicuous on account of their radiated form than those of many other species. The calyx consists of several simple parallel linear equal scales, accompanied at the base by a few scattered scales like those on the stalk, and which cannot be considered as belonging to the calyx itself. Flowers of the disk tubular and hermaphrodite; those of the radius numerous, ligulate and female. The seeds of both are so generally barren, that we are at a loss to decide upon Dr. Stokes's remark, in the second edition of *Withering*, that those of the disk only are so; but, as he justly observes, those of the radius only have the cloven taper stigma, which in this tribe indicates a fertile floret, and we therefore do not doubt his accuracy in the other respect. The leaves grow on long foot-stalks, clustered, from short lateral branches, and are heart-shaped, acute, angular and sharply toothed, very smooth above, cottony and veiny beneath. They are when young rolled back, and in that state thickly clothed with very white cotton, as is the stalk also. This cotton has been used for tinder and similar purposes. The leaves are bitterish, mucilaginous, and astringent, and are said to be good for the lungs, either taken in an infusion or smoked as tobacco. See Ray and *Withering*. Hence the generic name, from *Tussis* a cough.



No. 1737 *Philadelphus* J. Lewis

TUSSILAGO hybrida.

*Longer-stalked Butter-bur.*SYNGENESIA *Polygamia-superflua.*

GEN. CHAR. *Recept.* naked. *Down* simple. *Calyx*-scales equal, as long as the disk, somewhat membranous.

SPEC. CHAR. Panicle dense, oblong. Female florets very numerous; hermaphrodite one or two, central, with generally separate antheræ.

SYN. *Tussilago hybrida.* *Linn. Sp. Pl.* 1214. *Huds. Fl. An.* 364. *With. Bot. Arr.* 906. *ed.* 3. v. 3. 721.

Petasites major, floribus pediculis longis infidentibus. *Rau Syn.* 179.

WE are obliged to Mr. Travis of Scarborough for this wild specimen, which was gathered near Thorp Arnold in Leicestershire, on the sides of ditches, where this plant grows intermixed with *T. Petasites*. It is said to be not uncommon in that county, and also to be frequent about Manchester. It is perennial, flowering in April, and the down of the seeds before they are shed, forming a silvery plume, is very ornamental and conspicuous.

Root thick, creeping very far. Leaves radical, heart-shaped, pointed, irregularly toothed, cut away close to the side nerves at the base, very broad, downy beneath, standing on long upright fleshy cottony foot-stalks. Stalk erect, rising above the leaves, simple, round, cottony, invested with lanceolate scales, the lowermost of which mostly terminate in a small leafy appendage. Panicle dense, oblong or nearly ovate at first; after flowering, cylindrical and more loose. Partial flower-stalks mostly a little branched, slender, scaly and downy. Flowers flesh-coloured. Calyx short, nearly smooth, tipped with purple. Florets very numerous, all tubular, and for the most part female. Style much longer than the corolla, cloven, sharp-pointed. Linnæus describes these female flowrets as naked, or without corolla; but we must confess that in his own specimen as well as ours we can find no floret without. Seed obovate, rarely fertile. Down rough. In the centre among these female florets are found one or two, scarcely more, hermaphrodite ones, which have a reddish and rather more conspicuous corolla. Their antheræ are red, separate, or scarcely at all syngenesious. Their stigma is club-shaped, notched but hardly cloven, much thicker and shorter than in the female florets, and the germen is evidently imperfect.

We are almost persuaded of what nobody has hitherto hinted, that this plant is the true female of *T. Petasites*, being furnished with only a small provision of the other sex to perform its office occasionally, as is the case in *Spinachia*, *Cannabis*, *Musa*, &c. See *T. Petasites* in the next plate.



Helianthus divaricatus L. *Swartz*

[43¹]
T U S S I L A G O Petasites.
Common Butter-bur.

SYNGENESIA Polygamia-superflua.

GEN. CHAR. *Recept.* naked. *Down* simple. *Calyx*-scales equal, as long as the disk, somewhat membranous.

SPEC. CHAR. Panicle dense, ovate. Flowers almost all hermaphrodite, with united antheræ.

SYN. Tussilago Petasites. *Linn. Sp. Pl.* 1215. *Hudsf. Fl. An.* 364. *With. Bot. Arr.* 906. *ed.* 3. *v.* 3. 720. *Relb. Cant.* 314. *Sibth. Ox.* 261. *Curt. Lond. fasc.* 2. *t.* 59.
 Petasites. *Raii Syn.* 179.

VERY common on the banks of rivers and in moist shady places, flowering in April, about which time also the leaves appear, and in the course of the summer grow to a great size, being 2 or 3 feet in diameter.

The root is perennial, creeping very far, and increasing rapidly, so as to be extirpated with difficulty; in which respect it agrees with *T. hybrida*, as well as in the appearance and form of its leaves, which however are somewhat larger in the *Petasites*. The flower-stalk differs chiefly in being rather shorter, and the panicle after flowering less lengthened out. The flowers are larger, and scales of the calyx twice as long. All the florets are hermaphrodite in appearance; but their stigmas are thick and barren, many authors observing that the seeds are never perfected. The younger Linnæus and Haller, however, have occasionally noted a very few female florets to accompany the others, which the latter tells us produce good seeds. This circumstance is rare, and has not been observed in England; nor, if general, would it invalidate our conjecture, that this is the real male of *T. hybrida*, forming but one species with that. It is worth consideration whether the *T. alba* may not stand in the same relation to the *paradoxa* of Retzius, *Ait. Hort. Kew. v.* 3. 188. The antheræ of *T. Petasites* are united, as in *alba*; in *paradoxa*, as in *hybrida*, they are separate. All these plants increase so much by root, that impregnation (whether in the same individual or not) rarely takes place, which is also the case with mints and many other vegetables. We agree with Dr. Stokes and Professor Sibthorp, that as the florets of the circumference only in this genus produce perfect seeds, the central ones having the thickened stigma which appears always to be barren, it might be removed to the order of *Polygamia-necessaria*; but Syngenesious plants are subject to such variations in the perfection of their organs of impregnation, that it is by no means certain how far that order, or indeed some others, are founded in nature. This point we cannot here discuss, but may on some future occasion.



Small pieces of P. laticornis

L I C H E N byssinus.

*Mealy-bordered Lichen.**CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, powdery, brownish. Shields flat, dull-yellow, with a very white, mealy, elevated border.

SYN. Lichen byssinus. *Dicks. Crypt. fasc. 2. 19.*
With. Bot. Arr. v. 3. 174. ed. 3. v. 4. 25.

PROFESSOR Hoffmann of Gottingen appears to have originally described this little *Lichen*, in his *Enumeratio Lichenum*, a work we have not at hand. Mr. Dickson first observed it in this island, growing on trees and stones in Scotland. Our specimen is upon a piece of brick, and was found near London.

The crust is thin, with a vague indeterminate margin, slightly powdery, of a brown more or less dark. Sometimes it acquires a degree of thickness equal to that of coarse paper, and then its inner substance is whitish. The shields project a little. Their disk is very flat, of a dull-yellow or buff-colour; but the white elevated downy margin, which when arrived at maturity is as it were composed of two coats or layers, renders them very conspicuous.

This has much resemblance at first sight to the *L. marmoreus*, mentioned also by Mr. Dickson in his 2d fasciculus; but in that the crust is whitish or ash-coloured when present, and so thin and tender that in an advanced state of the plant it is not to be found at all; its shields moreover are reddish, their white margin thicker and more inflexed, downy rather than mealy, of one simple coat, and crenate.

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E R R A T A.

No. 406, line 14, for the Rev. Mr. Hemsted, read the Rev. Mr. Forby.
426, line 9, for 593 read 493.



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